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As filed with the Securities and Exchange Commission on August 18, 2023

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-4
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

NEOLEUKIN THERAPEUTICS, INC.
(Exact name of registrant as specified in its charter)

Delaware	**2834**	**98-0542593**
(State or other jurisdiction of incorporation or organization)	**(Primary Standard Industrial Classification Code Number)**	**(I.R.S. Employer Identification No.)**

188 East Blaine Street, Suite 450
Seattle, Washington 98102
(866) 245-0312
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Donna M. Cochener
Interim Chief Executive Officer, General Counsel
Neoleukin Therapeutics, Inc.
188 East Blaine Street, Suite 450
Seattle, Washington 98102
(866) 245-0312
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies of all communications, including communications sent to agent for service, should be sent to:

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Approximate date of commencement of proposed sale of the securities to the public: As soon as practicable after the effective date of this registration statement and the satisfaction or waiver of all other conditions under the Merger Agreement described herein.

If the securities being registered on this Form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

If applicable, place an X in the box to designate the appropriate rule provision relied upon in conducting this transaction:

Exchange Act Rule 13e-4(i) (Cross-Border Issuer Tender Offer) ☐

Exchange Act Rule 14d-1(d) (Cross-Border Third-Party Tender Offer) ☐

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary proxy statement/prospectus is not complete and may be changed. Neoleukin may not sell the securities described in this preliminary proxy statement/prospectus until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary proxy statement/prospectus is not an offer to sell and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROXY STATEMENT/PROSPECTUS
SUBJECT TO COMPLETION, DATED AUGUST 18, 2023

PROPOSED MERGER
YOUR VOTE IS VERY IMPORTANT

To the Stockholders of Neoleukin Therapeutics, Inc. and Neurogene Inc.,

Neoleukin Therapeutics, Inc., a Delaware corporation ("Neoleukin"), Project North Merger Sub, Inc., a Delaware corporation and wholly owned subsidiary of Neoleukin ("Merger Sub"), and Neurogene Inc., a Delaware corporation ("Neurogene"), entered into an Agreement and Plan of Merger (the "Merger Agreement") on July 17, 2023, pursuant to which, among other matters, and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene surviving as a wholly owned subsidiary of Neoleukin (such transaction, the "merger"). After the completion of the merger, Neoleukin will change its corporate name to "Neurogene Inc." The surviving company following the merger is referred to herein as the "combined company."

At the effective time of the merger (the "effective time"), each outstanding share of Neurogene capital stock (including shares of Neurogene Class A common stock and Neurogene Class B common stock (collectively, "Neurogene common stock"), Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing financing (as defined below)) (excluding shares of Neurogene common stock to be canceled pursuant to the Merger Agreement and excluding dissenting shares) will be converted solely into the right to receive a number of shares of Neoleukin common stock or pre-funded warrants entitling the holder to purchase shares of Neoleukin common stock ("Neoleukin pre-funded warrant"), as elected by the Neurogene stockholder and calculated in accordance with the Merger Agreement, equal to the exchange ratio described in more detail in the section entitled "*The Merger Agreement—Exchange Ratio*" beginning on page 153 of the accompanying proxy statement/prospectus. Any holder of Neurogene capital stock will be automatically considered to have elected to receive Neoleukin pre-funded warrants to the extent necessary to prevent such holder from beneficially owning more than 9.99% of the outstanding shares of Neoleukin common stock following the consummation of the merger. Other than as provided in the preceding sentence, if any holder of Neurogene capital stock fails to make any such election, such holder will be deemed to have elected to receive shares of Neoleukin common stock.

At the effective time, upon the terms and subject to the conditions set forth in the Merger Agreement, each warrant to purchase Neurogene common stock ("Neurogene pre-funded warrant") will be automatically converted into and exchanged for a Neoleukin pre-funded warrant entitling such holder of the Neurogene pre-funded warrant to purchase shares of Neoleukin common stock equal to the product of the number of shares of Neurogene common stock that would have been issuable upon exercise of the Neurogene pre-funded warrant and the exchange ratio, and such Neoleukin pre-funded warrant shall have an exercise price equal to the exercise price per share of the Neurogene pre-funded warrant divided by the exchange ratio, as described in more detail in the sections entitled "*The Merger Agreement—Merger Consideration*" and "*The Merger Agreement—Exchange Ratio*" beginning on page 152 of this proxy statement/prospectus.

The final exchange ratio is subject to adjustment prior to closing of the merger (the "closing") based upon Neoleukin's net cash, as defined in the Merger Agreement ("Neoleukin's net cash") at closing as well as the aggregate proceeds from the sale of Neurogene common stock and pre-funded warrants in the Neurogene pre-closing financing and, as a result, Neoleukin securityholders could own more, and Neurogene securityholders (including, for this purpose, investors in the Neurogene pre-closing financing) could own less, or vice versa, of the combined company. Based on Neoleukin's and Neurogene's capitalization as of July 17, 2023, the date the Merger Agreement was executed, the exchange ratio was estimated to be equal to approximately 1.7378x shares

of Neoleukin common stock for each share of Neurogene capital stock, which estimated exchange ratio did not give effect to either a potential reverse stock split approved by the stockholders of Neoleukin at its 2023 annual meeting or the expected Neoleukin reverse stock split that Neoleukin's stockholders are being asked to approve pursuant to the proxy statement that is a part of this registration statement on Form S-4. Neoleukin management continues to anticipate that Neoleukin's net cash at the closing will be not less than the Target Parent Net Cash (as defined in the Merger Agreement) amount and Neurogene's management continues to anticipate that the aggregate proceeds from the pre-closing financing will be approximately $95.0 million, and, as further described below and in connection with the Merger Agreement, if both assumptions are accurate, there would be no adjustment to the exchange ratio.

In connection with the merger, Neoleukin will assume Neurogene's 2018 Equity Incentive Plan ("2018 Plan"). Each outstanding and unexercised option to purchase shares of Neurogene common stock immediately prior to the effective time will be assumed by Neoleukin and will be converted into an option to purchase shares of Neoleukin's common stock, with necessary adjustments to the number of shares and exercise price to reflect the exchange ratio.

Certain investors have agreed to purchase shares of Neurogene common stock and Neurogene pre-funded warrants at a purchase price of $1.74 per share or $1.739999 per pre-funded warrant, for an aggregate purchase price of approximately $95 million, referred to herein as the "Neurogene pre-closing financing," immediately prior to the closing of the merger. The closing of the Neurogene pre-closing financing is conditioned upon the satisfaction or waiver of the conditions to the closing of the merger as well as certain other conditions. The shares of Neurogene common stock and Neurogene pre-funded warrants that are issued in the Neurogene pre-closing financing will be converted into the right to receive a number of shares of Neoleukin common stock or Neoleukin pre-funded warrants equal to the exchange ratio described in more detail in the section entitled "*The Merger Agreement—Exchange Ratio*" beginning on page 153 of the accompanying proxy statement/prospectus.

In connection with the merger, each share of Neoleukin common stock that is issued and outstanding at the effective time will remain issued and outstanding. Each unexpired, unexercised and unvested option to purchase Neoleukin common stock ("Neoleukin option") that has an exercise price per share less than $3.78 that is held by a current employee, director or consultant of Neoleukin as of immediately prior to the effective time or who ceases to be a current employee, director or consultant of Neoleukin as of immediately prior to the effective time, will be accelerated in full as of immediately prior to the effective time. All outstanding Neoleukin restricted stock units ("RSUs") that vest solely on the basis of time that are outstanding immediately prior to the effective time will be accelerated in full and will be settled in shares of Neoleukin common stock immediately prior to the effective time, contingent upon the occurrence of the closing.

Immediately after the merger, Neoleukin securityholders as of immediately prior to the merger are expected to own approximately 16% of the outstanding shares of capital stock of the combined company and Neurogene securityholders as of immediately prior to the merger are expected to own approximately 84% of the outstanding capital stock of the combined company, with former Neurogene securityholders, excluding shares of Neurogene common stock and Neurogene pre-funded warrants purchased in the Neurogene pre-closing financing, expected to own approximately 57% of the total outstanding shares of capital stock of the combined company and shares of Neurogene common stock and Neurogene pre-funded warrants issued in the Neurogene pre-closing financing expected to represent approximately 27% of the outstanding shares of capital stock of the combined company, subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being not less than the Target Parent Net Cash amount and the aggregate proceeds of the Neurogene pre-closing financing being $95.0 million. The foregoing percentages are calculated using the Treasury Stock Method ("TSM").

Shares of Neoleukin common stock are currently listed on The Nasdaq Capital Market ("Nasdaq") under the symbol "NLTX." Neoleukin intends to file an initial listing application for the combined company with Nasdaq. After completion of the merger, Neoleukin will be renamed "Neurogene Inc." and it is expected that the common stock of the combined company will trade on Nasdaq under the symbol "NGNE." On , 2023, the last trading day before the date of the accompanying proxy statement/prospectus, the closing sale price of Neoleukin common stock was $ per share.

The closing of the Neurogene pre-closing financing is conditioned upon the satisfaction or waiver of the conditions to the closing of the merger as well as certain other conditions. The Neurogene pre-closing financing is more fully described in the accompanying proxy statement/prospectus.

Neoleukin stockholders are cordially invited to attend the special meeting of Neoleukin stockholders. Neoleukin is holding its special meeting of stockholders (the "Neoleukin special meeting") on , 2023, at Pacific Time, unless postponed or adjourned to a later date, in order to obtain the stockholder approvals necessary to complete the merger and related matters. The Neoleukin special meeting will be held entirely online. Neoleukin stockholders will be able to attend and participate in the Neoleukin special meeting online by visiting www.virtualshareholdermeeting.com/NLTX2023SM, where they will be able to listen to the meeting live, submit questions and vote. At the Neoleukin special meeting, Neoleukin will ask its stockholders to:

1. Approve (i) the issuance of shares of common stock and pre-funded warrants of Neoleukin, including the shares of common stock to be issued on exercise of such pre-funded warrants, which will represent more than 20% of the shares of Neoleukin common stock outstanding immediately prior to the merger, to stockholders of Neurogene, pursuant to the terms of the Merger Agreement, a copy of which is attached as *Annex A* to the accompanying proxy statement/prospectus, and (ii) the change of control of Neoleukin resulting from the merger, pursuant to Nasdaq Listing Rules 5635(a) and 5635(b), respectively (the "Nasdaq Stock Issuance Proposal" or "Proposal No. 1");
2. Approve an amendment to the Amended and Restated Certificate of Incorporation of Neoleukin, as amended ("Neoleukin's charter") to effect a reverse stock split of Neoleukin's issued and outstanding common stock at a ratio in the range between 1: to 1: , inclusive, with the final ratio and effectiveness of such amendment and the abandonment of such amendment to be mutually agreed by the Neoleukin board of directors and the Neurogene board of directors prior to the effective time or, if the Nasdaq Stock Issuance Proposal is not approved by Neoleukin stockholders, determined solely by the Neoleukin board of directors, in the form attached as *Annex B* to the accompanying proxy statement/prospectus (the "Reverse Stock Split Proposal" or "Proposal No. 2");
3. Approve an amendment to Neoleukin's charter to provide for the exculpation of officers from personal liability for certain breaches of the duty of care, in the form attached as *Annex B* to the accompanying proxy statement/prospectus (the "Officer Exculpation Proposal" or "Proposal No. 3");
4. Approve an amendment to Neoleukin's charter to increase the number of authorized shares of Neoleukin common stock from 100,000,000 shares to shares, in the form attached as *Annex B* to the accompanying proxy statement/prospectus (the "Authorized Share Increase Proposal" or "Proposal No. 4");
5. Approve the Neurogene Inc. 2023 Equity Incentive Plan, in the form attached as *Annex C* to the accompanying proxy statement/prospectus (the "EIP Proposal" or "Proposal No. 5");
6. Approve the Neurogene Inc. 2023 Employee Stock Purchase Plan, in the form attached as *Annex D* to the accompanying proxy statement/prospectus (the "ESPP Proposal" or "Proposal No. 6");
7. Approve an adjournment of the Neoleukin special meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of Nasdaq Stock Issuance Proposal, the Reverse Stock Split Proposal and/or the Authorized Share Increase Proposal (the "Adjournment Proposal" or "Proposal No. 7"); and
8. Transact such other business as may properly come before the stockholders at the Neoleukin special meeting or any adjournment or postponement thereof.

As described in the accompanying proxy statement/prospectus, certain Neoleukin stockholders who in the aggregate owned approximately 21% of the outstanding shares of capital stock of Neoleukin as of July 17, 2023, and certain Neurogene stockholders who in the aggregate owned approximately 77% of the outstanding shares of Neurogene capital stock as of July 17, 2023, are parties to stockholder support agreements with Neoleukin and Neurogene, respectively, whereby such stockholders have agreed to vote in favor of the adoption of the Merger Agreement and the approval of the merger and related transactions contemplated by the Merger Agreement, subject to the terms of the support agreements. Following the effectiveness of the registration statement on

Form S-4 of which the accompanying proxy statement/prospectus is a part and pursuant to the Merger Agreement, Neurogene stockholders holding a sufficient number of shares of Neurogene capital stock to adopt the Merger Agreement and approve the merger and related transactions will be asked to execute written consents providing for such adoption and approval.

After careful consideration, each of the Neoleukin and Neurogene boards of directors have approved the Merger Agreement and have determined that it is advisable to consummate the merger. Neoleukin's board of directors has approved the proposals described in the accompanying proxy statement/prospectus and unanimously recommends that its stockholders vote "**FOR**" the proposals described in the accompanying proxy statement/prospectus.

More information about Neoleukin, Neurogene, the Merger Agreement and transactions contemplated thereby and the foregoing proposals is contained in the accompanying proxy statement/prospectus. Neoleukin urges you to read the accompanying proxy statement/prospectus carefully and in its entirety. IN PARTICULAR, YOU SHOULD CAREFULLY CONSIDER THE MATTERS DISCUSSED UNDER "RISK FACTORS" BEGINNING ON PAGE 28 OF THE ACCOMPANYING PROXY STATEMENT/PROSPECTUS.

Neoleukin and Neurogene are excited about the opportunities the merger brings to Neoleukin's and Neurogene's stockholders and thank you for your consideration and continued support.

Donna M. Cochener

Interim Chief Executive Officer, General Counsel

Neoleukin Therapeutics, Inc.

Rachel McMinn, Ph.D.

Chief Executive Officer

Neurogene Inc.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of the accompanying proxy statement/prospectus. Any representation to the contrary is a criminal offense.

The accompanying proxy statement/prospectus is dated , 2023, and is first being mailed to Neoleukin's stockholders on or about , 2023.

NEOLEUKIN THERAPEUTICS, INC.
188 East Blaine Street, Suite 450
Seattle, Washington 98102

NOTICE OF SPECIAL MEETING OF STOCKHOLDERS

To the stockholders of Neoleukin Therapeutics, Inc.:

NOTICE IS HEREBY GIVEN that a virtual special meeting of stockholders (the "Neoleukin special meeting") will be held on , 2023 at Pacific Time, unless postponed or adjourned to a later date. The Neoleukin special meeting will be held entirely online. You will be able to attend and participate in the Neoleukin special meeting online by visiting *www.virtualshareholdermeeting.com/NLTX2023SM*, where you will be able to listen to the meeting live, submit questions and vote.

The Neoleukin special meeting will be held for the following purposes:

1. To approve (i) the issuance of shares of common stock and pre-funded warrants of Neoleukin, including the shares of common stock to be issued on exercise of such pre-funded warrants, which will represent more than 20% of the shares of Neoleukin common stock outstanding immediately prior to the merger, to stockholders of Neurogene, pursuant to the terms of the Merger Agreement, a copy of which is attached as *Annex A* to the accompanying proxy statement/prospectus, and (ii) the change of control of Neoleukin resulting from the merger, pursuant to Nasdaq Listing Rules 5635(a) and 5635(b), respectively;
2. To approve an amendment to Neoleukin's charter to effect a reverse stock split of Neoleukin's issued and outstanding common stock at a ratio in the range between 1: to 1: , inclusive, with the final ratio and effectiveness of such amendment and the abandonment of such amendment to be mutually agreed by the Neoleukin board of directors and the Neurogene board of directors prior to the effective time or, if Proposal No. 1 is not approved by Neoleukin stockholders, determined solely by the Neoleukin board of directors, in the form attached as *Annex B* to the accompanying proxy statement/prospectus;
3. To approve an amendment to Neoleukin's charter to provide for the exculpation of officers from personal liability for certain breaches of the duty of care, in the form attached as *Annex B* to the accompanying proxy statement/prospectus;
4. To approve an amendment to Neoleukin's charter to increase the number of authorized shares of Neoleukin common stock from 100,000,000 shares to shares, in the form attached as *Annex B* to the accompanying proxy statement/prospectus;
5. To approve the Neurogene Inc. 2023 Equity Incentive Plan, in the form attached as *Annex C* to the accompanying proxy statement/prospectus;
6. To approve the Neurogene Inc. 2023 Employee Stock Purchase Plan, in the form attached as *Annex D* to the accompanying proxy statement/prospectus;
7. To approve an adjournment of the Neoleukin special meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of the Nasdaq Stock Issuance Proposal, the Authorized Share Increase Proposal, and/or the Reverse Stock Split Proposal; and
8. To transact such other business as may properly come before the stockholders at the Neoleukin special meeting or any adjournment or postponement thereof.

Theseproposals are collectively referred to as the "Proposals."

Neoleukin's board of directors has fixed , 2023 as the record date for the determination of stockholders entitled to notice of, and to vote at, the Neoleukin special meeting and any adjournment or postponement thereof. Only holders of record of shares of Neoleukin common stock at the close of business on the record date are entitled to notice of, and to vote at, the Neoleukin special meeting. At the close of business on the record date, Neoleukin had shares of common stock outstanding and entitled to vote.

Your vote is important. The affirmative vote of a majority of the votes properly cast by the holders of Neoleukin common stock at the Neoleukin special meeting, assuming a quorum is present, is required for approval of Proposal Nos. 1, 2, 4, 5, 6 and 7. The affirmative vote of at least 66 2/3% of the voting power of all of the outstanding shares of Neoleukin common stock entitled to vote at the Neoleukin special meeting is required for approval of Proposal No. 3. No Proposal is conditioned upon any other Proposal. However, the approval of Proposal No. 1 is a condition to completion of the merger, and the approval of either or both of Proposal Nos. 2 and 4 will be required to have an adequate number of authorized but unissued shares of Neoleukin common stock to complete the merger.

Even if you plan to virtually attend the Neoleukin special meeting, Neoleukin requests that you sign and return the enclosed proxy or vote by mail or online to ensure that your shares will be represented at the Neoleukin special meeting if you are unable to virtually attend. You may change or revoke your proxy at any time before it is voted at the Neoleukin special meeting.

NEOLEUKIN'S BOARD OF DIRECTORS HAS UNANIMOUSLY DETERMINED AND BELIEVES THAT EACH OF THE PROPOSALS OUTLINED ABOVE IS FAIR TO, IN THE BEST INTERESTS OF, AND ADVISABLE TO NEOLEUKIN AND ITS STOCKHOLDERS AND HAS APPROVED EACH SUCH PROPOSAL. NEOLEUKIN'S BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT NEOLEUKIN STOCKHOLDERS VOTE "FOR" EACH SUCH PROPOSAL.

The proxy statement/prospectus is available at www.virtualshareholdermeeting.com/NLTX2023SM.

By Order of Neoleukin's Board of Directors,

Donna M. Cochener

Interim Chief Executive Officer, General Counsel

, 2023

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* To be filed by amendment.

QUESTIONS AND ANSWERS ABOUT THE MERGER

Except where specifically noted, the following information and all other information contained in this proxy statement/prospectus does not give effect to the reverse stock split approved by Neoleukin stockholders at the 2023 annual meeting, which Neoleukin expects to implement before the merger and the proposed reverse stock split described in Proposal No. 2 of this proxy statement/prospectus.

The following section provides answers to frequently asked questions about the merger. This section, however, provides only summary information. For a more complete response to these questions and for additional information, please refer to the cross-referenced sections.

Q: What is the merger?

A: On July 17, 2023, Neoleukin, Neurogene and Merger Sub entered into the Merger Agreement, a copy of which is attached as *Annex A*. The Merger Agreement contains the terms and conditions of the proposed merger. Pursuant to the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene surviving as a wholly owned subsidiary of Neoleukin. This transaction is referred to in this proxy statement/prospectus as the "merger." After the completion of the merger, Neoleukin will change its corporate name to "Neurogene Inc." The surviving company following the merger is referred to herein as the "combined company."

At the effective time of the merger (the "effective time"), each share of Neurogene capital stock (including shares of Neurogene Class A common stock and Neurogene Class B common stock (collectively, "Neurogene common stock"), Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing financing (as defined below)) (excluding shares of Neurogene common stock to be canceled pursuant to the Merger Agreement and excluding dissenting shares) will be converted solely into the right to receive a number of shares of Neoleukin common stock or Neoleukin pre-funded warrants, as elected by the Neurogene stockholder and calculated in accordance with the Merger Agreement, equal to the exchange ratio described in more detail in the section entitled "*The Merger Agreement—Exchange Ratio*" beginning on page 153 of the accompanying proxy statement/prospectus.

At the effective time, upon the terms and subject to the conditions set forth in the Merger Agreement, each Neurogene pre-funded warrant will be automatically converted into and exchanged for a Neoleukin pre-funded warrant entitling such holder of Neurogene pre-funded warrant to purchase shares of Neoleukin common stock equal to the product of the number of shares of Neurogene common stock that would have been issuable upon exercise of the Neurogene pre-funded warrant and the exchange ratio and such warrant shall have an exercise price equal to the exercise price per share of the Neurogene pre-funded warrant divided by the exchange ratio described in more detail in the sections entitled "*The Merger Agreement—Merger Consideration*" and "*The Merger Agreement—Exchange Ratio*" beginning on page 152 of this proxy statement/prospectus.

In connection with the merger, Neoleukin will assume Neurogene's 2018 Plan. Each outstanding and unexercised option to purchase shares of Neurogene common stock immediately prior to the effective time will be assumed by Neoleukin and will be converted into an option to purchase shares of Neoleukin's common stock, with necessary adjustments to the number of shares and exercise price to reflect the exchange ratio.

In connection with the merger, each share of Neoleukin common stock that is issued and outstanding at the effective time will remain issued and outstanding. Each unexpired, unexercised and unvested Neoleukin option that has an exercise price per share less than $3.78 that is held by a current employee, director or consultant of Neoleukin as of immediately prior to the effective time, or who ceases to be a current employee, director or consultant of Neoleukin as of immediately prior to the effective time, will be

accelerated in full as of immediately prior to the effective time, contingent upon the occurrence of the closing. All outstanding Neoleukin RSUs that vest solely on the basis of time that are outstanding immediately prior to the effective time will be accelerated in full and will be settled in shares of Neoleukin common stock immediately prior to the effective time, contingent upon the occurrence of the closing.

Immediately after the merger, Neoleukin securityholders as of immediately prior to the merger are expected to own approximately 16% of the outstanding shares of capital stock of the combined company and former Neurogene securityholders as of immediately prior to the merger are expected to own approximately 84% of the outstanding capital stock of the combined company, with former Neurogene securityholders, excluding shares of Neurogene common stock and Neurogene pre-funded warrants purchased in the Neurogene pre-closing financing, expected to own approximately 57% of the total of the outstanding shares of capital stock of the combined company and shares of Neurogene common stock and Neurogene pre-funded warrants issued in the Neurogene pre-closing financing expected to represent approximately 27% of the outstanding shares of capital stock of the combined company, subject in each case to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being not less than the Target Parent Net Cash amount and the aggregate proceeds from the Neurogene pre-closing financing being $95.0 million. The foregoing percentages were calculated using the TSM.

Q: Why are the two companies proposing to merge?

A: Neoleukin and Neurogene believe that combining the two companies will result in a combined company with a robust pipeline, a strong leadership team and substantial capital resources, positioning it to potentially become a pre-eminent biotechnology company focused on developing Neurogene's lead product candidates, including NGN-401, a potentially best-in-class gene therapy for the treatment of Rett syndrome, and addressing the limitations of conventional gene therapy to provide treatment options for complex neurological disorders with high unmet need using its EXACT technology. For a more complete description of the reasons for the merger, please see the sections entitled "*The Merger—Neoleukin's Reasons for the Merger*" and "*The Merger—Neurogene's Reasons for the Merger*" beginning on pages 113 and 118, respectively, of this proxy statement/prospectus.

Q: Why am I receiving this proxy statement/prospectus?

A: You are receiving this proxy statement/prospectus because you have been identified as a stockholder of Neoleukin as of the applicable record date, and you are entitled to vote to approve the matters set forth herein. This document serves as:

- a proxy statement of Neoleukin used to solicit proxies for the Neoleukin special meeting to vote on the matters set forth herein; and
- a prospectus of Neoleukin used to offer shares of Neoleukin common stock in exchange for shares of Neurogene capital stock (including shares of Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing financing) in the merger.

Q: What is the Neurogene pre-closing financing?

A: On July 17, 2023, concurrently with the execution and delivery of the Merger Agreement, Neurogene entered into subscription agreements with certain investors named therein, including Great Point Partners, EcoR1 Capital, Redmile Group, Samsara BioCapital, Janus Henderson Investors, funds and accounts managed by Blackrock, Casdin Capital, Avidity Partners, Arrowmark Partners, Cormorant Asset Management, Alexandria Venture Investments, and a healthcare investment fund, pursuant to which such investors agreed to purchase shares of Neurogene common stock and Neurogene pre-funded warrants, at a purchase price of $1.74 per share or $1.739999 per pre-funded warrant for an aggregate purchase price of approximately $95 million. Immediately after the merger, the shares of Neurogene common stock and

Neurogene pre-funded warrants issued in the Neurogene pre-closing financing are expected to represent approximately 27% of the outstanding shares of capital stock of the combined company, assuming no change to the Target Parent Net Cash amount at closing and aggregate proceeds of $95.0 million raised in the Neurogene pre-closing financing. The foregoing percentages were calculated using the TSM. The closing of the Neurogene pre-closing financing is conditioned upon the satisfaction or waiver of the conditions to the closing of the merger as well as certain other conditions.

Q: What proposals will be voted on at the Neoleukin special meeting in connection with the merger?

A: Pursuant to the terms of the Merger Agreement, the following proposals must be approved by the requisite stockholder vote at the Neoleukin special meeting in order for the merger to close:

- **Proposal No. 1—The Nasdaq Stock Issuance Proposal** to approve (i) the issuance of shares of common stock and pre-funded warrants of Neoleukin including shares of common stock to be issued on exercise of such pre-funded warrants, which will represent more than 20% of the shares of Neoleukin common stock outstanding immediately prior to the merger, to stockholders of Neurogene, pursuant to the terms of the Merger Agreement, a copy of which is attached as *Annex A* to this proxy statement/prospectus, and (ii) the change of control of Neoleukin resulting from the merger, pursuant to Nasdaq Listing Rules 5635(a) and 5635(b), respectively; and
- **Proposal No. 2—The Reverse Stock Split Proposal** to approve an amendment to Neoleukin's charter to effect a reverse stock split of Neoleukin's issued and outstanding common stock at a ratio in the range between 1: to 1: , inclusive, with the final ratio and effectiveness of such amendment and the abandonment of such amendment to be mutually agreed by the Neoleukin board of directors and the Neurogene board of directors prior to the effective time or, if the Nasdaq Stock Issuance Proposal is not approved by Neoleukin stockholders, determined solely by the Neoleukin board of directors, in the form attached as *Annex B* to the accompanying proxy statement/prospectus.
- **Proposal No. 4—The Authorized Share Increase Proposal** to approve an amendment to Neoleukin's charter to increase the number of authorized shares of Neoleukin common stock from 100,000,000 shares to shares, in the form attached as *Annex B* to this proxy statement/prospectus.

The approval of Proposal No. 1 is a condition to completion of the merger, and approval of either or both of Proposal Nos. 2 and 4 will be required to have an adequate number of authorized but unissued shares of Neoleukin common stock to complete the merger. The issuance of Neoleukin common stock in connection with the merger and the change of control of Neoleukin resulting from the merger will not take place unless Proposal No. 1 and either or both of Proposal Nos. 2 and 4 are approved by Neoleukin stockholders and the merger is consummated. The amendment to the Neoleukin charter to effect a reverse stock split of Neoleukin's issued and outstanding common stock will not take place unless Proposal No. 2 is approved by the requisite Neoleukin stockholders. The amendment to the Neoleukin charter to increase the number of authorized shares of Neoleukin common stock will not take place unless Proposal No. 4 is approved by the requisite Neoleukin stockholders. The Neoleukin board of directors may determine to effect the reverse stock split and/or the authorized share increase if they are approved and Proposal No. 1 is not approved by Neoleukin stockholders, following the special meeting.

In addition to the requirement of obtaining Neoleukin stockholder approval of Proposal No. 1 and either or both of Proposal Nos. 2 and 4, the closing of the merger is subject to the satisfaction or waiver of each of the other closing conditions set forth in the Merger Agreement. For a more complete description of the closing conditions under the Merger Agreement, please see the section entitled "*The Merger Agreement—Conditions to the Completion of the Merger*" beginning on page 168 of this proxy statement/prospectus.

The presence, by accessing online or being represented by proxy, at the Neoleukin special meeting of the holders of a majority of the shares of Neoleukin common stock outstanding and entitled to vote at the Neoleukin special meeting is necessary to constitute a quorum at the meeting for the Proposals.

Q: What proposals are to be voted on at the Neoleukin special meeting, other than the Nasdaq Stock Issuance Proposal, the Reverse Stock Split Proposal and the Authorized Share Increase Proposal?

A: At the Neoleukin special meeting, the holders of Neoleukin common stock will also be asked to consider the following proposals:

- **Proposal No. 3—The Officer Exculpation Proposal** to approve an amendment to Neoleukin's charter to provide for the exculpation of officers from personal liability for certain breaches of the duty of care, in the form attached as *Annex B* to this proxy statement/prospectus;
- **Proposal No. 5—The EIP Proposal** to approve the Neurogene Inc. 2023 Equity Incentive Plan, in the form attached as *Annex C* to this proxy statement/prospectus;
- **Proposal No. 6—The ESPP Proposal** to approve the Neurogene Inc. 2023 Employee Stock Purchase Plan, in the form attached as *Annex D* to this proxy statement/prospectus; and
- **Proposal No. 7—The Adjournment Proposal** to approve an adjournment of the Neoleukin special meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of the Nasdaq Stock Issuance Proposal, the Reverse Stock Split Proposal and/or the Authorized Share Increase Proposal.

The approval of Proposal Nos. 3, 5, 6 and 7 are not a condition to the merger or required in order to effect the merger. Neoleukin does not expect that any matter other than the Proposals will be brought before the Neoleukin special meeting.

The presence, by accessing online or being represented by proxy, at the Neoleukin special meeting of the holders of a majority of the shares of Neoleukin common stock outstanding and entitled to vote at the Neoleukin special meeting is necessary to constitute a quorum at the meeting for the purpose of approving the Proposals.

Q: What stockholder votes are required to approve the Proposals at the Neoleukin special meeting?

A: The affirmative vote of a majority of the votes properly cast by the holders of Neoleukin common stock at the Neoleukin special meeting, assuming a quorum is present, is required for approval of Proposal Nos. 1, 2, 4, 5, 6 and 7. The affirmative vote of at least 66 2/3% of the voting power of all of the outstanding shares of Neoleukin common stock entitled to vote at the Neoleukin special meeting is required for approval of Proposal No. 3. No Proposal is conditioned upon any other Proposal.

Votes will be counted by the inspector of election appointed for the meeting, who will separately count "FOR," "AGAINST" and "WITHHOLD" votes, abstentions and broker non-votes, if any, as applicable to each proposal. Abstentions and broker non-votes, if any, will also be treated as shares present for the purpose of determining the presence of a quorum for the transaction of business at the special meeting. Abstentions will be counted towards the vote totals for each proposal, and will have the same effect of a vote "AGAINST" each proposal. Broker non-votes, if any, will not be counted as "votes properly cast" and will therefore have no effect on Proposal Nos. 1, 2, 4, 5, 6 and 7, but will be counted as "shares entitled to vote" and will therefore have the same effect of a vote "AGAINST" Proposal No. 3.

Q: What are contingent value rights ("CVRs")?

A: Each CVR will represent the contractual right to receive (a) certain net proceeds, if any, derived from any consideration that is paid as a result of the disposition of Neoleukin's pre-merger legacy assets pursuant to one or more agreements entered into before or within one year after the effective time, (b) certain net savings, if any, realized by Neoleukin by June 30, 2029 in connection with the reduction of Neoleukin's legacy lease obligations, and (c) certain net proceeds, if any, derived from Neoleukin's anticipated sales tax

refund from Washington State and received by Neoleukin by June 30, 2029, in each case subject to the terms and conditions set forth in the CVR Agreement (as defined below).

At or prior to the effective time, Neoleukin, a lease representative and a rights agent will enter into a Contingent Value Rights Agreement (the "CVR Agreement"), pursuant to which pre-merger Neoleukin common stockholders, holders of Neoleukin options outstanding as of the closing that are exercised after the closing, subject to the terms and conditions set forth in the CVR Agreement, and holders of Neoleukin existing pre-funded warrants outstanding as of the closing ("Neoleukin existing pre-funded warrants") will receive one non-transferable CVR for each outstanding share of Neoleukin common stock held by such stockholder, option holder or Neoleukin warrant holder on such date. The contingent payments under the CVR Agreement, if they become payable, will become payable to the rights agent for subsequent distribution to the holders of the CVRs. In the event that no proceeds are received, or if not received within the periods specified in the CVR Agreement, holders of the CVRs will not receive any payment pursuant to the CVR Agreement. There can be no assurance that any holders of CVRs will receive payments with respect thereto.

The right to the contingent payments contemplated by the CVR Agreement is a contractual right only and will not be transferable, except in the limited circumstances specified in the CVR Agreement. The CVRs will not be evidenced by a certificate or any other instrument and will not be registered with the SEC. The CVRs will not have any voting or dividend rights and will not represent any equity or ownership interest in Neoleukin or the combined company or any of its affiliates. No interest will accrue on any amounts payable in respect of the CVRs.

For a more detailed description of the CVRs and the CVR Agreement, see "*Agreements Related to the Merger—Contingent Value Rights Agreement*" elsewhere in this proxy statement/prospectus.

Q: What will Neoleukin stockholders, participants in Neoleukin's 2014 Plan (including Neoleukin option holders and RSU holders), participants in the Neoleukin 2020 Employee Stock Purchase Plan (the "Neoleukin ESPP") and Neoleukin existing pre-funded warrant holders receive in the merger?

Each share of Neoleukin common stock issued and outstanding at the time of the merger will remain issued and outstanding.

Neoleukin's 2014 Equity Incentive Plan (the "Neoleukin 2014 Plan") will continue on following the Merger Agreement, although assuming the 2023 Neurogene Equity Incentive Plan set forth in Proposal 5 is approved by the Neoleukin stockholders entitled to vote at the special meeting, no additional awards would be issued under the Neoleukin 2014 Plan after the effective time. Prior to the closing of the merger, and in connection with the merger, the Neoleukin board of directors will take actions to, contingent upon the occurrence of the closing, (i) accelerate the vesting of each then-outstanding unexpired, unexercised and unvested Neoleukin option that has an exercise price per share less than $3.78 that is held by a current employee, director or consultant of Neoleukin as of immediately prior to the effective time, or who ceases to be a current employee, director or consultant of Neoleukin as of immediately prior to the effective time, subject to the terms and conditions set forth in the Merger Agreement, (ii) accelerate the vesting of any unvested, time-based Neoleukin RSUs that are held by a current employee, director or consultant of Neoleukin as of immediately prior to the closing, or who ceases to be a current employee, director or consultant of Neoleukin as of immediately prior to the closing and (iii) deliver to the holders of such Neoleukin RSUs a number of shares of Neoleukin common stock equal to the number of vested and unsettled shares underlying such Neoleukin RSUs, in each case, in accordance with the terms of the Merger Agreement.

In addition, under the Merger Agreement, no Neoleukin employee who is not already a participant in any offering period under the Neoleukin ESPP in effect as of the date of the Merger Agreement (the "Current

ESPP Offering Period") may become a participant and no participant may increase the amount of his or her payroll deduction election from that amount in effect on the date of the Merger Agreement for such Current ESPP Offering Period. The Neoleukin ESPP will be suspended and no new offering period will commence under the Neoleukin ESPP prior to the termination of the Merger Agreement. If any Current ESPP Offering Period is still in effect at the effective time, then the last day of such Current ESPP Offering Period will be accelerated to a date before the closing as determined by the Neoleukin board of directors (or relevant committee thereof) in its discretion.

Pursuant to the Merger Agreement, all Neoleukin existing pre-funded warrants that are outstanding immediately prior to the effective time will survive the closing and remain outstanding in accordance with their terms.

For a more complete description of the treatment of Neoleukin common stock, Neoleukin options, Neoleukin existing pre-funded warrants and Neoleukin RSUs, please see the sections entitled "*The Merger Agreement—Treatment of Neoleukin Common Stock, Neoleukin Options, Neoleukin Existing Pre-Funded Warrants and Neoleukin RSUs*" beginning on page 157 of this proxy statement/prospectus.

Q: What will Neurogene stockholders, participants in Neurogene's 2018 Plan (including Neurogene option holders), and Neurogene pre-funded warrant holders receive in the merger?

A: Neurogene stockholders will receive shares of Neoleukin common stock, with the number of shares of Neoleukin common stock to be determined based on the exchange ratio.

Neoleukin will assume Neurogene's 2018 Plan. Neurogene option holders' outstanding and unexercised options to purchase shares of Neurogene common stock immediately prior to the effective time will be assumed by Neoleukin and each outstanding and unexercised option will be converted into an option to purchase shares of Neoleukin's common stock, with necessary adjustments to the number of shares and exercise price to reflect the exchange ratio.

At the effective time, upon the terms and subject to the conditions set forth in the Merger Agreement, each Neurogene pre-funded warrant will be automatically converted into and exchanged for a Neoleukin pre-funded warrant entitling such holder of the Neurogene pre-funded warrant to purchase shares of Neoleukin common stock equal to the product of the number of shares of Neurogene common stock that would have been issuable upon exercise of the Neurogene pre-funded warrant and the exchange ratio and such Neoleukin pre-funded warrant shall have an exercise price equal to the exercise price per share of the Neurogene pre-funded warrant divided by the exchange ratio described in more detail in the sections entitled "*The Merger Agreement—Merger Consideration*" and "*The Merger Agreement—Exchange Ratio*" beginning on page 152 of this proxy statement/prospectus.

Applying the exchange ratio, the former Neurogene securityholders immediately before the merger are expected to own approximately 84% of the aggregate number of shares of the combined company's capital stock following the merger, with approximately 57% of the aggregate ownership allocated to securities of Neurogene outstanding prior to the pre-closing financing and approximately 27% of the total ownership allocated to shares of Neurogene common stock and Neurogene pre-funded warrants issued in the pre-closing financing, and Neoleukin securityholders immediately before the merger are expected to own approximately 16% of the aggregate number of shares of the combined company capital stock following the merger, in each case subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being not less than the Target Parent Net Cash amount and aggregate proceeds of $95.0 million from the Neurogene pre-closing financing. The foregoing percentages were calculated using the TSM.

For a more complete description of the treatment of Neurogene common stock, Neurogene options, Neurogene's 2018 Plan and Neurogene pre-funded warrants in the merger, please see the sections entitled

"*The Merger Agreement—Merger Consideration"* and "*The Merger Agreement—Exchange Ratio*" beginning on pages 152 and 153, respectively, of this proxy statement/prospectus. For a description of the effect of the Neurogene pre-closing financing on Neoleukin's and Neurogene's current securityholders, please see the section entitled "*Agreements Related to the Merger—Subscription Agreement*" beginning on page 176 of this proxy statement/prospectus.

Q: Will the common stock of the combined company trade on an exchange?

A: Shares of Neoleukin common stock are currently listed on Nasdaq under the symbol "NLTX." Neoleukin intends to file an initial listing application for the common stock of the combined company with Nasdaq. After completion of the merger, Neoleukin will be renamed "Neurogene Inc." and it is expected that the common stock of the combined company will trade on Nasdaq under the symbol "NGNE." On , 2023, the last trading day before the date of this proxy statement/prospectus, the closing sale price of Neoleukin common stock was $ per share.

Q: Who will be the directors of the combined company following the merger?

A: Immediately following the merger, the combined company's board of directors will be composed of seven members, two of whom will be designated by Neoleukin and five of whom will be designated by Neurogene. The staggered structure of three classes of directors of the Neoleukin board of directors will remain in place for the combined company following the completion of the merger. All of Neoleukin's current directors, other than Rohan Palekar and Sarah Noonberg, are expected to resign from their positions as directors of Neoleukin, effective as of the effective time.

Q: Who will be the executive officers of the combined company immediately following the merger?

A: Immediately following the merger, the executive management team of the combined company is expected to consist of members of the Neurogene executive management team prior to the merger, including:

Name	Title
Rachel McMinn	Founder and Chief Executive Officer
Christine Mikail Cvijic ("Christine Mikail")	President and Chief Financial Officer
Stuart Cobb	Chief Scientific Officer

Q: As a Neoleukin stockholder, how does Neoleukin's board of directors recommend that I vote?

A: The Neoleukin board of directors, in consultation with financial and legal advisors and management, evaluated the terms of the Merger Agreement and the related transactions contemplated thereby and unanimously: (i) determined that the merger and the related transactions contemplated by the Merger Agreement are fair to, advisable and in the best interests of Neoleukin and its stockholders; (ii) approved and declared advisable the Merger Agreement and the related transactions contemplated by the Merger Agreement, including the issuance of shares of Neoleukin common stock in connection with the merger; and (iii) recommends that Neoleukin's stockholders vote "**FOR**" all of the Proposals.

Q: What risks should I consider in deciding whether to vote in favor of the merger?

A: You should carefully review the section entitled "*Risk Factors*" beginning on page 28 of this proxy statement/prospectus and the documents incorporated by reference herein, which set forth certain risks and uncertainties related to the merger, risks and uncertainties to which the combined company's business will be subject, and risks and uncertainties to which each of Neoleukin and Neurogene, as independent companies, are subject.

Q: When do you expect the merger to be consummated?

A: The merger is anticipated to close in the fourth quarter of 2023, but the exact timing cannot be predicted. For more information, please see the section entitled "*The Merger Agreement—Conditions to the Completion of the Merger*" beginning on page 168 of this proxy statement/prospectus.

Q: What do I need to do now?

A: Neoleukin urges you to read this proxy statement/prospectus carefully, including the annexes and the documents incorporated by reference, and to consider how the merger affects you.

If you are a Neoleukin stockholder of record, you may provide your proxy instructions in one of four different ways:

- You can vote using the proxy card. Simply complete, sign and date the accompanying proxy card and return it promptly in the envelope provided. If you return your signed proxy card before the Neoleukin special meeting, Neoleukin will vote your shares in accordance with the proxy card.
- You can vote by proxy over the internet by following the instructions provided on the proxy card.
- You can vote by telephone by calling the toll-free number found on the proxy card.
- You may attend the Neoleukin special meeting online and vote during the meeting by following the instructions at *www.virtualshareholdermeeting.com/NLTX2023SM*. Simply attending the Neoleukin special meeting will not, by itself, vote your shares or, if you have previously provided a vote by proxy, revoke your proxy and/or change your vote.

Your signed proxy card, telephonic proxy instructions, or internet proxy instructions must be received by , 2023 at 11:59 p.m. Eastern Time to be counted.

If you hold your shares in "street name" (as described below), you may provide your proxy instructions via telephone or the internet by following the instructions on your vote instruction form provided by your bank, broker or other nominee, referred to herein as "broker." Please provide your proxy instructions only once, unless you are revoking a previously delivered proxy instruction, and as soon as possible so that your shares can be voted at the Neoleukin special meeting.

Whether or not you plan to attend the Neoleukin special meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the Neoleukin special meeting even if you have already voted by proxy.

Please note that if you have more than one account through which you hold shares, you will receive more than one control number. The control number is used to vote your shares, and is also used to log on to the meeting website to virtually attend the meeting, which will allow you to vote the shares held in the account associated with that control number at the meeting. However, you will not be able to vote shares held in other accounts not associated with the control number you are using to log in to the virtual shareholder meeting. Therefore, it is important that you return your proxy cards for all of your accounts prior to the Neoleukin special meeting so that all of your shares may be counted.

Q: What happens if I do not return a proxy card or otherwise vote or provide proxy instructions, as applicable?

A: *Registered Stockholder: Shares Registered in Your Name*

If you are the registered stockholder and do not vote in one of the ways described above, your shares will not be voted at the Neoleukin special meeting and will not be counted toward the quorum requirement.

Beneficial Owner: Shares Registered in the Name of a Broker, Fiduciary or Custodian

If you are the beneficial owner and do not direct your broker, fiduciary or custodian how to vote your shares, your broker, fiduciary or custodian will only be able to vote your shares with respect to proposals considered to be "routine." Your broker, fiduciary or custodian is not entitled to vote your shares with respect to "non-routine" proposals, which we refer to as a "broker non-vote." Whether a proposal is considered routine or non-routine is subject to stock exchange rules and final determination by the stock exchange. Even with respect to routine matters, some brokers are choosing not to exercise discretionary voting authority. As a result, we urge you to direct your broker, fiduciary or custodian how to vote your shares on all proposals to ensure that your vote is counted.

Q: May I attend the Neoleukin special meeting and vote in person?

A: Stockholders of record as of , 2023 will be able to attend and participate in the Neoleukin special meeting online by accessing *www.virtualshareholdermeeting.com/NLTX2023SM*. To join the Neoleukin special meeting, you will need to have your control number which is included on your proxy card. If your shares are held in "street name," you should contact your broker if you did not receive a control number.

Please note that if you hold shares in more than one account, you will receive a different control number for each account. You may log in to the Neoleukin special meeting using any of your control numbers, however, you will only be able to vote the shares associated with that control number at the Neoleukin special meeting. Therefore, we encourage you to submit your votes in advance of the meeting for all accounts you hold to ensure your vote is counted at the Neoleukin special meeting. Please note if you do not provide any instructions to your broker to vote your shares on any proposal, your shares may not be voted at all and therefore would not be considered present at the meeting for the purposes of establishing a quorum to take action at the meeting.

Q: Who counts the votes?

A: Broadridge Financial Solutions ("Broadridge") has been engaged as Neoleukin's inspector of election. If you are a stockholder of record, your executed proxy card is returned directly to Broadridge for tabulation. If you hold your shares through a broker, your broker returns one proxy card to Broadridge on behalf of all its clients.

Q: If my Neoleukin shares are held in "street name" by my broker, will my broker vote my shares for me?

A: If you hold shares beneficially in street name and do not provide your broker or other agent with voting instructions for one or more proposals, your shares may constitute "broker non-votes" for those proposals where you have not provided voting instructions. A "broker non-vote" occurs when shares held by a broker that are represented at the meeting are not voted with respect to a particular proposal because the broker has not received voting instructions from its client(s) with respect to such shares on how to vote for that proposal and does not have or did not exercise discretionary authority to vote on the matter.

Broker non-votes, if any, will be treated as shares that are present at the Neoleukin special meeting for purposes of determining whether a quorum exists but will not have any effect for the purpose of voting on Proposal Nos. 1, 2, 4, 5, 6 and 7. Broker non-votes, if any, will have the same effect as "AGAINST" votes for Proposal No. 3.

If a Neoleukin stockholder does not return voting instructions to their broker on how to vote their shares of Neoleukin common stock, such broker may be prevented from voting, or may otherwise choose not to vote, such shares held by such broker, resulting in broker non-votes with respect to such shares. In the event that you do not provide voting instructions for any of the proposals, your broker may not be able to vote such shares at all at the meeting, as there are not expected to be any routine matters. Therefore, those shares will not be considered present for purposes of establishing a quorum to take action at the stockholder meeting.

To make sure that your vote is counted, you should instruct your broker to vote your shares of Neoleukin common stock, following the procedures provided by your broker.

Q: What are broker non-votes and do they count for determining a quorum?

A: Generally, a "broker non-vote" occurs when shares held by a broker are not voted with respect to a particular proposal because the broker has not received voting instructions from its client(s) with respect to such shares on how to vote and does not have or did not exercise discretionary authority to vote on the matter.

Broker non-votes, if any, will be treated as shares present for the purpose of determining the presence of a quorum for the transaction of business at the Neoleukin special meeting. Broker non-votes, if any, will not be counted as "votes properly cast" and will therefore have no effect on Proposal Nos. 1, 2, 4, 5, 6 and 7 but will be counted as "shares entitled to vote" and will therefore have the same effect of a vote "AGAINST" Proposal No. 3.

Q: May I revoke and/or change my vote after I have submitted a proxy or provided proxy instructions?

A: Neoleukin stockholders of record, unless such stockholder's vote is subject to a support agreement, may revoke and/or change their vote at any time before their proxy is voted at the Neoleukin special meeting in one of four ways:

- You may submit another properly completed proxy with a later date by mail or via the internet.
- You can provide your proxy instructions via telephone at a later date.
- You may send a notice that you are revoking your proxy over the internet, following the instructions provided on your proxy card.
- You may attend the Neoleukin special meeting online and vote during the meeting by following the instructions at *www.virtualshareholdermeeting.com/NLTX2023SM*. Simply attending the Neoleukin special meeting will not, by itself, revoke your proxy and/or change your vote.

Your signed proxy card, telephonic proxy instructions, internet proxy instructions, or written notice must be received by , 2023, 11:59 p.m. Eastern Time to be counted.

If a Neoleukin stockholder who owns Neoleukin shares in "street name" has instructed a broker to vote its shares of Neoleukin common stock, the stockholder must follow directions received from its broker to change those instructions.

Q: Who is paying for this proxy solicitation?

A: Neoleukin and Neurogene will share the cost of printing and filing of this proxy statement/prospectus and the proxy card based on the pro rata ownership of the combined company following the transaction, including the Neurogene pre-closing financing. Arrangements will also be made with brokerage firms and other custodians, nominees and fiduciaries who are record holders of Neoleukin common stock for the forwarding of solicitation materials to the beneficial owners of Neoleukin common stock. Neoleukin will reimburse these brokers, custodians, nominees and fiduciaries for the reasonable out-of-pocket expenses they incur in connection with the forwarding of solicitation materials. Neoleukin has retained Morrow Sodali LLC ("Morrow Sodali"), to assist it in soliciting proxies using the means referred to above. Neoleukin will pay the fees of Morrow Sodali, which Neoleukin expects to be up to $20,000, plus reimbursement of out-of-pocket expenses.

Q: What are the material U.S. federal income tax considerations of the merger to United States holders of Neurogene common stock?

A: The merger is intended to qualify as a "reorganization" within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended for U.S. federal income tax purposes. However, it is not a condition to Neurogene's obligation or Neoleukin's obligation to complete the merger that the merger so qualifies. Nevertheless, assuming that the merger so qualifies, U.S. holders (as defined in the section entitled "*The Merger—Material U.S. Federal Income Tax Considerations of the Merger*" beginning on page 142) of shares of Neurogene common stock will generally not recognize any gain or loss for U.S. federal income tax purposes on the exchange of their shares of Neurogene common stock for shares of Neoleukin common stock in the merger. Neurogene and Neoleukin have not sought and will not seek any ruling from the Internal Revenue Service (the "IRS") regarding any matters relating to the transactions and, as a result, there can be no assurance that the IRS would not assert, or that a court would not sustain, a position contrary to any of the conclusions set forth herein.

For a more complete discussion of the material U.S. federal income tax considerations of the merger, see the section entitled "*The Merger—Material U.S. Federal Income Tax Considerations of the Merger*" beginning on page 142.

Q: What are the material U.S. federal income tax considerations of the issuance of the CVRs, including any distributions of Neoleukin common stock under the CVRs?

A: Although the U.S. federal income tax treatment of the CVRs is uncertain and the matter is not free from doubt, Neoleukin intends to treat a holder's receipt of the CVRs as an "open transaction" and each future payment on the CVRs as a distribution of property with respect to the holder's existing shares of Neoleukin common stock for U.S. federal income tax purposes. Please review the information in the sections entitled "*Risk Factors—Risk Factors Related to Merger—The tax treatment of the CVRs is uncertain"* and "*Agreements Related to the Merger—Material U.S. Federal Income Tax Considerations of the CVRs to Holders of Neoleukin Common Stock*" for a discussion of the material U.S. federal income tax considerations of the CVRs to holders of Neoleukin common stock.

Q: What are the material U.S. federal income tax considerations of the reverse stock split to holders of Neoleukin common stock?

A: A holder of Neoleukin common stock should not recognize gain or loss upon the reverse stock split, except to the extent such holder receives cash in lieu of a fractional share of Neoleukin common stock, and subject to the discussion in the section entitled "*Proposal No. 2—The Reverse Stock Split Proposal*." Please review the information in the section entitled "*Proposal No. 2—The Reverse Stock Split Proposal—Material U.S. Federal Income Tax Considerations of the Reverse Stock Split*" for a more complete description of the material U.S. federal income tax considerations of the reverse stock split to holders of Neoleukin common stock.

Q: Who can help answer my questions?

A: If you are a Neoleukin stockholder and would like additional copies of this proxy statement/prospectus without charge or if you have questions about the merger or related matters, including the procedures for voting your shares, you should contact:

Neoleukin Therapeutics, Inc.
188 East Blaine Street, Suite 450
Seattle, Washington 98102
Telephone: (866) 245-0312
Attention: Corporate Secretary
Email: corporatesecretary@neoleukin.com

PROSPECTUS SUMMARY

This summary highlights selected information from this proxy statement/prospectus and may not contain all of the information that is important to you. To better understand the merger and the proposals being considered at the Neoleukin special meeting, you should read this entire proxy statement/prospectus carefully, including the Merger Agreement and the other annexes to which you are referred in this proxy statement/prospectus, and the documents incorporated by reference therein. For more information, please see the section entitled "*Where You Can Find More Information*" beginning on page 362 of this proxy statement/prospectus. Except where specifically noted, the following information and all other information contained in this proxy statement/prospectus does not give effect to the proposed reverse stock split described in Proposal No. 2 of this proxy statement/prospectus.

The Companies

Neoleukin

Neoleukin has historically been a biopharmaceutical company focused on creating next generation immunotherapies for cancer, inflammation, and autoimmunity using *de novo* protein design technology. Neoleukin developed sophisticated computational methods to design proteins that demonstrated specific pharmaceutical properties to provide potentially superior therapeutic benefit over native proteins.

In November 2022, Neoleukin announced a corporate restructuring as a result of the strategic decision to discontinue development of its first product candidate, NL-201, and turn its focus to the next generation of *de novo* cytokine mimetics that further widen the therapeutic window. In March 2023, Neoleukin announced a further corporate restructuring to significantly reduce its workforce and suspend its research and development activities in order to conserve capital and focus on other strategic alternatives for Neoleukin.

Neoleukin's principal executive offices are located at 188 East Blaine Street, Suite 450, Seattle, Washington 98102, and its telephone number is (866) 245-0312.

Neurogene

Neurogene is a clinical-stage biotechnology company committed to turning today's complex devastating neurological diseases into treatable conditions. By harnessing Neurogene's proprietary transgene regulation technology, EXACT ("Expression Attenuation via Construct Tuning"), Neurogene is building a robust and differentiated product portfolio of genetic medicines for rare neurological diseases with high unmet need not otherwise addressable by conventional gene therapy. Neurogene's EXACT approach leverages key scientific breakthroughs, including gene transfer technology, microRNA-based genetic circuits, and adeno-associated virus delivery, and is designed to deliver therapeutic levels of transgene to key areas of the brain that underlie neurological disease pathology.

Neurogene's first clinical-stage program to utilize the EXACT platform is NGN-401, under development for the treatment of Rett syndrome, a disease with a patient population that has a significant unmet need, and that ultimately progresses to substantial neurological and physical impairment and premature death. In January 2023, Neurogene received clearance from the U.S. Food and Drug Administration ("FDA") for its investigational new drug application for a Phase 1/2 clinical trial of NGN-401 for the treatment of pediatric female patients. The Phase 1/2 clinical trial is an open-label, single-arm, multi-center clinical trial that will assess the safety, tolerability, and efficacy of a single dose of NGN-401 delivered using a one-time intracerebral ventricular procedure, which Neurogene believes is the most suitable route of administration to achieve optimal biodistribution in key regions of the brain. NGN-401 was manufactured at Neurogene's manufacturing facility and clinical-grade product is available for dosing in the Phase 1/2 clinical trial with enrollment advancing as

planned in the second half of 2023. Neurogene expects preliminary clinical data from the first cohort of patients in this trial in the fourth quarter of 2024 and an updated dataset from an expanded number of patients in the second half of 2025. Neurogene believes that its EXACT platform has broad applicability in complex neurological diseases not otherwise easily addressable by conventional gene therapy. In addition to its Rett syndrome program, Neurogene has multiple early-stage programs in the discovery stage. Neurogene anticipates advancing an additional program into clinical development in 2025.

In addition to NGN-401, Neurogene is also pursuing a conventional gene therapy program in an ongoing Phase 1/2 clinical trial of NGN-101 for the treatment of CLN5 Batten disease. This patient population has a significant unmet need, and experiences significant neurological and physical impairment leading to blindness, loss of motor function and early mortality. Neurogene's ongoing Phase 1/2 clinical trial of NGN-101 is the first trial to assess the treatment of both neurodegenerative and ocular disease manifestations of Batten disease. A third-party manufacturer produced product for the NGN-101 program to initiate the Phase 1/2 clinical trial. Dosing for this program commenced in the second quarter of 2022, and Neurogene expects preliminary data in the second half of 2024.

Neurogene also established a flexible, fully operational, current Good Manufacturing Practice facility in Houston, Texas used to manufacture current and future toxicology-grade and clinical-grade product. Neurogene believes that its in-house manufacturing capabilities enable control of product quality and development timelines, and provides strategic pipeline and financial flexibility and clinical-to-commercial continuity.

In December 2020, Neurogene entered into a research collaboration with the University of Edinburgh to support its pipeline development and expansion, and to accelerate scientific innovation to continue to improve upon conventional gene therapy. Under the terms of the agreement, Neurogene has the option to in-license product candidates from Dr. Stuart Cobb's laboratory, where he has a dual appointment as a Professor in Translational Neuroscience at the Patrick Wild Centre and Centre for Discovery Brain Sciences and serves as Neurogene's Chief Scientific Officer.

Neurogene's principal executive officers are located at 535 W 24th Street, 5th Floor New York, NY 10011 and its phone number is (855) 505-3568.

Merger Sub

Merger Sub is a direct, wholly owned subsidiary of Neoleukin and was formed solely for the purpose of carrying out the merger. Merger Sub's principal executive offices are located at 188 East Blaine Street, Suite 450, Seattle, Washington 98102, and its telephone number is (866) 245-0312.

The Merger (see page 105)

If the merger is completed, Merger Sub will merge with and into Neurogene, with Neurogene surviving as a wholly owned subsidiary of Neoleukin.

Neoleukin's Reasons for the Merger (see page 113)

During the course of its evaluation of the Merger Agreement and the transactions contemplated by the Merger Agreement, the Neoleukin board of directors (including the independent members of the transaction committee of the Neoleukin board of directors (the "Transaction Committee")) held numerous meetings, consulted with Neoleukin's senior management, legal counsel and financial advisors, and reviewed and assessed a significant amount of information. In reaching its decision to approve the Merger Agreement and the transactions contemplated by the Merger Agreement, the Neoleukin board of directors took into account the input

of the Transaction Committee, as well as other information presented to it during the process, and considered a number of factors that it viewed as supporting its decision to approve the Merger Agreement, including:

- the financial condition and prospects of Neoleukin and the risks associated with continuing to operate Neoleukin on a stand-alone basis, including in light of:
  - Neoleukin's decision, announced in March 2023, to discontinue its research and development activities, which resulted in a corporate restructuring and further reduction in Neoleukin's workforce by approximately 70% (in addition to its decision to discontinue the development of NL-201 and a prior reduction in force of approximately 40% announced in November 2022);
  - investor interest and value perception for possible further development of its remaining early-stage programs and probability of success and time required for development in relation to the requisite time and costs; and
  - difficulties encountered in Neoleukin's related business development efforts to license or sell its assets that could result in meaningful new capital or shared future development costs;
- the challenges of maintaining Neoleukin's Nasdaq listing without completing the merger and the transactions contemplated in the Merger Agreement;
- the comprehensive process conducted by the Neoleukin board of directors, the Transaction Committee and Neoleukin's financial advisors of reviewing and analyzing potential strategic alternatives and merger partner candidates and the Neoleukin board of directors' view that no available alternatives to the merger (including remaining a standalone company, a liquidation or dissolution of Neoleukin to distribute any available cash, and alternative strategic transactions) were reasonably likely to create greater value for Neoleukin's stockholders;
- the Neoleukin board of directors' belief that the merger would provide the existing Neoleukin stockholders with (i) a significant opportunity to participate in the potential growth of the combined company following the merger based on the probability of technical and regulatory success of advancing Neurogene's pipeline of therapeutic programs intended to treat complex neurological disorders, including NGN-401, a clinical-stage product for Rett syndrome, which uses novel gene regulation technology; and (ii) the potential to receive certain cash payments following the closing of the merger pursuant to, and subject to the terms and conditions of, the CVR Agreement with respect to (a) certain net proceeds, if any derived from any consideration that is paid as a result of the disposition of Neoleukin's pre-merger legacy assets pursuant to one or more agreements entered into before or within one year after the effective time and realized by June 30, 2029, (b) certain net savings, if any, realized by Neoleukin by June 30, 2029 in connection with the reduction of Neoleukin's legacy lease obligations, and (c) certain net proceeds, if any, derived from Neoleukin's anticipated sales tax refund from Washington State and received by Neoleukin by June 30, 2029;
- the Neoleukin board of directors' belief that the $55.6 million equity value ascribed to Neoleukin (assuming Neoleukin's net cash as of closing is the Target Parent Net Cash amount) would provide existing Neoleukin stockholders significant value and afford Neoleukin stockholders a significant opportunity to participate in the potential growth of the combined company following the merger at the negotiated exchange ratio; and
- the Neoleukin board of directors' view that Neurogene's product candidates have the potential to create meaningful value for the stockholders of the combined company and an opportunity for Neoleukin's stockholders to participate in the growth of the combined company, based on the business, scientific, regulatory, intellectual property, financial, accounting and legal due diligence conducted by Neoleukin management and advisors (which included numerous diligence calls and a comprehensive review of Neurogene's due diligence materials).

Neurogene's Reasons for the Merger (see page 118)

In the course of reaching its decision to approve the merger and the Neurogene pre-closing financing, the Neurogene board of directors held numerous meetings, consulted with Neurogene's senior management and legal counsel and considered a wide variety of factors. Ultimately, the Neurogene board of directors concluded that a merger with Neoleukin, together with the additional financing committed from the Neurogene pre-closing financing, was the best option to generate capital resources to support the advancement of Neurogene's pipeline and fund the combined organization.

Additional factors the Neurogene board of directors considered included the following (which factors are not necessarily presented in any order of relative importance):

- the merger will potentially expand the access to capital and the range of investors available as a public company to support the clinical development of Neurogene's pipeline, compared to the capital and investors Neurogene could otherwise gain access to if it continued to operate as a privately-held company;
- the potential benefits from increased public market awareness of Neurogene and its pipeline;
- the historical and current information concerning Neurogene's business, including its financial performance and condition, operations, management and preclinical and clinical data;
- the Neurogene board of directors' belief that alternatives to the merger, including an alternative public listing strategy, together with the additional financing committed from the Neurogene pre-closing financing, were not reasonably likely to create greater value for Neurogene stockholders, after reviewing the various financing and other strategic options to enhance stockholder value that were considered by the Neurogene board of directors;
- the Neurogene board of directors' expectation that the merger, together with the additional financing committed from the Neurogene pre-closing financing, would be a higher probability and more cost-effective means to access capital than other options considered, including an initial public offering;
- the expected operations, management structure and operating plans of the combined company (including the ability to support the combined company's current and planned preclinical and clinical trials), including the impact of the CVR Agreement;
- the business, history, operations, financial resources, assets, technology and credibility of Neoleukin; and
- the terms and conditions of the Merger Agreement.

The Neurogene board of directors also considered a number of uncertainties and risks in its deliberations concerning the merger and the other transactions contemplated by the Merger Agreement, including the following:

- the possibility that the merger or the Neurogene pre-closing financing might not be completed;
- the risk that future sales of common stock by existing Neoleukin stockholders may cause the price of Neoleukin common stock to fall, thus reducing the potential value of Neoleukin common stock received by Neurogene stockholders following the merger;
- the exchange ratio is fixed, except for adjustments described in the Merger Agreement, including those based on the Target Parent Net Cash amount and the aggregate proceeds to be received in the pre-closing financing, and thus the relative percentage ownership of Neoleukin stockholders and Neurogene stockholders in the combined organization immediately following the completion of the merger is similarly fixed;

- the potential effect of the $12.0 million termination fee payable by Neurogene and Neurogene's expense reimbursement obligations upon the occurrence of certain events in deterring other potential acquirers from proposing an alternative transaction that may be more advantageous to Neurogene stockholders;
- the potential reduction of Neoleukin's net cash prior to the closing and the possibility that the Parent Net Cash amount is lower than the minimum amount set forth in the Merger Agreement as a condition to closing the merger;
- the possibility that Neoleukin could consider unsolicited Acquisition Proposals (as defined below);
- the costs, time and effort involved in connection with completing the merger, related disruptions or potential disruptions to Neurogene's business and related administrative challenges associated with combining the companies;
- the uncertainties regarding the activities related to the potential future distributions to CVR holders under the CVR Agreement, including the risk that Neoleukin's legacy lease obligations may not be reduced or mitigated or, if successfully reduced or mitigated, the amount of cash or stock that the combined company will have to distribute to CVR holders, and the allocation of combined company resources to attempting to dispose of Neoleukin's legacy assets and mitigate Neoleukin's lease liabilities;
- the additional expenses and obligations to which Neurogene's business will be subject following the merger as a public company; and
- various other risks associated with the combined organization and the merger, including the risks described in the section entitled "Risk Factors" in this proxy statement/prospectus.

Recommendation of Neoleukin's Board of Directors (see page 101)

- Neoleukin's board of directors has determined and believes that the issuance of shares of Neoleukin's common stock and Neoleukin's pre-funded warrants, including shares of common stock to be issued on exercise of such warrants, pursuant to the Merger Agreement is fair to, in the best interests of, and advisable to, Neoleukin and its stockholders and has approved such proposal. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" the Nasdaq Stock Issuance Proposal as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes that it is fair to, in the best interests of, and advisable to, Neoleukin and its stockholders to approve the amendment to Neoleukin's charter to effect the reverse stock split, as described in this proxy statement/prospectus. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" the Reverse Stock Split Proposal as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes that it is advisable to, and in the best interests of, Neoleukin and its stockholders to approve the amendment to Neoleukin's charter to provide for indemnification of officers from personal liability for certain breaches of the duty of care, as described in this proxy statement/prospectus. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" the Officer Exculpation Proposal as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes that it is fair to, in the best interests of, and advisable to, Neoleukin and its stockholders to approve the amendment to Neoleukin's charter to increase the number of authorized shares of Neoleukin common stock from 100,000,000 to , as described in this proxy statement/prospectus. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" the Authorized Share Increase Proposal as described in this proxy statement/prospectus.

- Neoleukin's board of directors has determined and believes it is fair to, in the best interests of and advisable to, Neoleukin and its stockholders to approve the 2023 Neurogene Inc. Equity Incentive Plan. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" the EIP Proposal as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes it is fair to, in the best interests of and advisable to, Neoleukin and its stockholders to approve the 2023 Neurogene Inc. Employee Stock Purchase Plan. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" the ESPP Proposal as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes that adjourning the Neoleukin special meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of the Nasdaq Stock Issuance Proposal the Reverse Stock Split Proposal and/or the Authorized Share Increase Proposal is fair to, in the best interests of, and advisable to, Neoleukin and its stockholders and has approved and adopted the proposal. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" the Adjournment Proposal, if necessary, as described in this proxy statement/prospectus.

Interests of Neoleukin's Directors and Executive Officers in the Merger (see page 131)

In considering the recommendation of the Neoleukin board of directors with respect to issuing shares of Neoleukin common stock and pre-funded warrants in the merger and the other matters to be acted upon by the Neoleukin stockholders at the Neoleukin special meeting, the Neoleukin stockholders should be aware that Neoleukin's directors and executive officers have interests in the merger that are different from, or in addition to, the interests of Neoleukin's stockholders generally. These interests may present them with actual or potential conflicts of interest. These interests include the following:

- each of Rohan Palekar and Sarah Noonberg will continue as directors of the combined company after the effective time, and, following the closing of the merger, will be eligible to be compensated as a non-employee director of the combined company pursuant to the non-employee director compensation policy in place following the effective time of the merger;
- under the Merger Agreement, Neoleukin's directors and executive officers are entitled to continued indemnification, expense advancement and insurance coverage;
- in connection with the merger, each unexpired, unexercised and unvested Neoleukin option that has an exercise price per share of less than $3.78 that is held by a current employee, director or consultant of Neoleukin as of immediately prior to the effective time (including those held by Donna M. Cochener and Sean Smith), or who ceases to be a current employee, director or consultant of Neoleukin as of immediately prior to the effective time, will be accelerated in full as of immediately prior to the effective time contingent upon the closing;
- in connection with the merger, each Neoleukin RSU that vests solely on the basis of time held by Sean Smith will be accelerated in full as of immediately prior to the effective time, contingent upon the occurrence of the closing, and such holder shall receive a number of shares of Neoleukin common stock equal to the number of vested and unsettled shares underlying such Neoleukin RSUs; and
- in connection with the merger, each of Donna M. Cochener and Sean Smith will be entitled to receive certain change in control and/or enhanced severance benefits, as described in further detail in the section entitled "*The Merger—Interests of Neoleukin's Directors and Executive Officers in the Merger*" below.

The Neoleukin board of directors was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the merger, and to

recommend that the Neoleukin stockholders approve the proposals to be presented to the Neoleukin stockholders for consideration at the Neoleukin special meeting as contemplated by this proxy statement/prospectus.

Interests of Neurogene's Directors and Executive Officers in the Merger (see page 138)

In considering the recommendation of the Neurogene board of directors with respect to approving the merger, stockholders should be aware that Neurogene's directors and executive officers have interests in the merger that are different from, or in addition to, the interests of Neurogene stockholders generally. These interests may present them with actual or potential conflicts of interest. These interests include the following:

- in connection with the merger, each option to purchase shares of Neurogene common stock held by Neurogene's executive officers and directors, whether or not vested, will be converted into an option to purchase shares of Neoleukin common stock;
- several of Neurogene's directors and executive officers are expected to become directors and executive officers of the combined company upon the closing; and
- each of Neurogene's directors and executive officers are entitled to certain indemnification and liability insurance coverage pursuant to the terms of the Merger Agreement.

The board of directors of Neurogene was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the merger, and to recommend that the Neurogene stockholders approve the merger as contemplated by this proxy statement/prospectus.

Opinion of Leerink Partners to the Neoleukin Board of Directors (see page 124)

Neoleukin retained Leerink Partners LLC ("Leerink Partners") as its financial advisor in connection with the merger and the other transactions contemplated by the Merger Agreement. On July 17, 2023, Leerink Partners rendered to the Neoleukin board of directors its oral opinion, which was subsequently confirmed by delivery of a written opinion to the Neoleukin board of directors dated July 17, 2023, that, as of such date and based upon and subject to the various assumptions made, and the qualifications and limitations upon the review undertaken by Leerink Partners in preparing its opinion, the exchange ratio proposed to be paid by Neoleukin pursuant to the terms of the Merger Agreement was fair, from a financial point of view, to Neoleukin.

The full text of the written opinion of Leerink Partners, dated July 17, 2023, which describes the assumptions made and the qualifications and limitations upon the review undertaken by Leerink Partners in preparing its opinion, is attached as *Annex E* to this proxy statement/prospectus and is incorporated herein by reference. **Leerink Partners' financial advisory services and opinion were provided for the information and assistance of the Neoleukin board of directors (in their capacity as directors and not in any other capacity) in connection with and for purposes of the Neoleukin board of directors' consideration of the merger and the opinion of Leerink Partners addressed only the fairness, from a financial point of view, as of the date thereof, to Neoleukin of the exchange ratio proposed to be paid by Neoleukin pursuant to the terms of the Merger Agreement. The opinion of Leerink Partners did not address any other term or aspect of the Merger Agreement or the merger and does not constitute a recommendation to any stockholder of Neoleukin or Neurogene as to whether or how such holder should vote with respect to the merger or otherwise act with respect to the merger or any other matter.**

The full text of the written opinion of Leerink Partners should be read carefully in its entirety for a description of the assumptions made and qualifications and limitations upon the review undertaken by Leerink Partners in preparing its opinion.

The Merger Agreement (see page 152)

Merger Consideration (see page 152)

At the effective time, upon the terms and subject to the conditions set forth in the Merger Agreement, each outstanding share of Neurogene capital stock (including shares of Neurogene common stock, shares of Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing financing) (excluding shares of Neurogene common stock to be canceled pursuant to the Merger Agreement and excluding dissenting shares) will be automatically converted solely into the right to receive a number of shares of Neoleukin common stock or Neoleukin pre-funded warrants, as elected by the Neurogene stockholder and calculated in accordance with the Merger Agreement based on the exchange ratio. Any holder of Neurogene capital stock will be automatically considered to have elected to receive Neoleukin pre-funded warrants to the extent necessary to prevent such holder from beneficially owning more than 9.99% of the outstanding shares of Neoleukin common stock following the consummation of the merger. Other than as provided in the preceding sentence, if any holder of Neurogene capital stock fails to make any such election, such holder will be deemed to have elected to receive shares of Neoleukin common stock.

At the effective time, upon the terms and subject to the conditions set forth in the Merger Agreement, each Neurogene pre-funded warrant will be automatically converted into and exchanged for a Neoleukin pre-funded warrant entitling such holder of Neurogene pre-funded warrant to purchase shares of Neoleukin common stock equal to the product of (i) the number of shares of Neurogene common stock that would have been issuable upon exercise of the Neurogene pre-funded warrant and (ii) the exchange ratio, and such Neoleukin pre-funded warrant shall have an exercise price equal to the exercise price per share of the Neurogene pre-funded warrant divided by the exchange ratio as described in more detail in the sections entitled "*The Merger Agreement—Merger Consideration*" and "*The Merger Agreement—Exchange Ratio*" beginning on page 152 of this proxy statement/prospectus.

Immediately after the merger, using the exchange ratio described in more detail in the section entitled "*The Merger Agreement—Exchange Ratio*," on a pro forma basis and based upon the number of shares of Neoleukin common stock expected to be issued in the merger, pre-merger Neurogene securityholders (including investors in the pre-closing financing transaction) are expected to own approximately 84% of the combined company and pre-merger Neoleukin securityholders are expected to own approximately 16% of the combined company, in each case, on an as-converted basis to reflect the exercise of any pre-funded warrants. Of the 84% of the combined company expected to be owned by the pre-merger Neurogene securityholders, approximately 57% of such ownership is allocated to securities of Neurogene outstanding prior to the pre-closing financing and approximately 27% is allocated to shares of Neurogene common stock and Neurogene pre-funded warrants issued in the Neurogene pre-closing financing. All such ownership percentages are subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being not less than the Target Parent Net Cash amount and the aggregate proceeds of the Neurogene pre-closing financing being $95.0 million, in each case as described in more detail in the section entitled "*The Merger Agreement—Exchange Ratio*." The foregoing percentages were calculated using the TSM.

Treatment of Neurogene Options and 2018 Plan (see page 155)

Under the terms of the Merger Agreement, each Neurogene option that is outstanding and unexercised immediately prior to the effective time and whether or not vested, will be assumed and converted into an option to purchase shares of Neoleukin common stock. Neoleukin will assume Neurogene's 2018 Plan.

Accordingly, from and after the effective time:

(i) each outstanding Neurogene option assumed by Neoleukin may be exercised solely for shares of Neoleukin common stock;

(ii) the number of shares of Neoleukin common stock subject to each outstanding Neurogene option assumed by Neoleukin will be determined by multiplying (A) the number of shares of Neurogene common stock that were subject to such Neurogene option assumed by Neoleukin, as in effect immediately prior to the effective time, by (B) the exchange ratio, and rounding the resulting number down to the nearest whole number of shares of Neoleukin common stock;

(iii) the per share exercise price of each Neurogene option assumed by Neoleukin will be determined by dividing (A) the per share exercise price of such Neurogene option, as in effect immediately prior to the effective time, by (B) the exchange ratio and rounding the resulting exercise price up to the nearest whole cent; and

(iv) each Neurogene option assumed by Neoleukin will otherwise continue in full force and effect under the Neurogene 2018 Plan and the term, exercisability (if applicable), vesting schedule, acceleration rights and other terms and conditions of such Neurogene option will otherwise remain unchanged.

Each Neurogene option shall, in accordance with its terms, continue to be subject to further adjustment as appropriate to reflect any stock split, division or subdivision of shares, stock dividend, reverse stock split, consolidation of shares, reclassification, recapitalization or other similar transaction with respect to shares of Neoleukin common stock subsequent to the effective time. In addition, the Neoleukin compensation committee will succeed to the authority and responsibility of the Neurogene board of directors as administrator of Neurogene's 2018 Plan.

Treatment of Neurogene Pre-Funded Warrants (see page 156)

At the effective time, upon the terms and subject to the conditions set forth in the Merger Agreement, each Neurogene pre-funded warrant will be automatically converted into and exchanged for a Neoleukin pre-funded warrant entitling such holder of a Neurogene pre-funded warrant to purchase shares of Neoleukin common stock equal to the product of (i) the number of shares of Neurogene common stock that would have been issuable upon exercise of the Neurogene pre-funded warrant and (ii) the exchange ratio, and such Neoleukin pre-funded warrant shall have an exercise price equal to the exercise price per share of the Neurogene pre-funded warrant divided by the exchange ratio described in more detail in the sections entitled "*The Merger Agreement—Merger Consideration*" and "*The Merger Agreement—Exchange Ratio*" beginning on page 153 of this proxy statement/prospectus.

Accordingly, from and after the effective time: (i) each outstanding Neurogene pre-funded warrant assumed by Neoleukin may be exercised solely for shares of Neoleukin common stock; (ii) the number of shares of Neoleukin common stock subject to each outstanding Neurogene pre-funded warrant assumed by Neoleukin will be determined by multiplying (A) the number of shares of Neurogene common stock that were subject to such Neurogene pre-funded warrant, as in effect immediately prior to the effective time, by (B) the exchange ratio, and rounding the resulting number down to the nearest whole number of shares of Neoleukin common stock; and (iii) the per share exercise price of each Neurogene pre-funded warrant assumed by Neoleukin will be determined by dividing (A) the per share exercise price of such Neurogene pre-funded warrant, as in effect immediately prior to the effective time, by (B) the exchange ratio and rounding the resulting aggregate exercise price up to the nearest whole cent. Each Neurogene pre-funded warrant assumed by Neoleukin will otherwise continue in full force and effect and the term, exercisability, vesting schedule, acceleration rights and other terms and conditions of such Neurogene pre-funded warrant will otherwise remain unchanged.

Each Neurogene pre-funded warrant shall, in accordance with its terms, continue to be subject to further adjustment as appropriate to reflect any stock split, division or subdivision of shares, stock dividend, reverse stock split, consolidation of shares, reclassification, recapitalization or other similar transaction with respect to shares of Neoleukin common stock subsequent to the effective time. In addition, the Neoleukin board of directors

or a committee thereof will succeed to the authority and responsibility of the Neurogene board of directors or any such committee.

Treatment of Neoleukin Common Stock, Neoleukin Options, Neoleukin Existing Pre-Funded Warrants and Neoleukin RSUs (see page 157)

Each share of Neoleukin common stock issued and outstanding at the time of the merger will remain issued and outstanding, and, subject to the proposed reverse stock split and any extension to the expiration time provided for in connection with the merger, will be unaffected by the merger.

Each unexpired, unexercised and unvested Neoleukin option that has an exercise price per share less than $3.78 that is held by a current employee, director or consultant of Neoleukin as of immediately prior to the effective time or who ceases to be a current employee, director or consultant of Neoleukin as of immediately prior to the effective time will be accelerated in full as of immediately prior to the effective time, contingent upon the occurrence of the closing. All outstanding Neoleukin RSUs that vest solely on the basis of time that are outstanding immediately prior to the effective time will be accelerated in full, contingent upon the occurrence of the closing, and will be settled in shares of Neoleukin common stock immediately prior to the effective time. Each existing Neoleukin warrant that is outstanding immediately prior to the effective time will survive the closing and remain outstanding in accordance with its terms.

The number of shares of Neoleukin common stock underlying such options and RSUs and the exercise prices for such stock options and such Neoleukin existing pre-funded warrants will be appropriately adjusted to reflect the proposed reverse stock split, if it is approved by the Neoleukin stockholders and implemented by the Neoleukin board of directors in consultation with the Neurogene board of directors.

Conditions to the Completion of the Merger (see page 168)

To complete the merger, Neoleukin stockholders must approve Proposal No. 1 and either or both of Proposal Nos. 2 and 4, and Neurogene stockholders must adopt the Merger Agreement and approve the merger and the related transactions contemplated by the Merger Agreement. Additionally, each of the other closing conditions set forth in the Merger Agreement must be satisfied or waived.

Non-Solicitation (see page 163)

The Merger Agreement contains non-solicitation provisions prohibiting Neoleukin and Neurogene from inquiring about or seeking a competing transaction. Each of Neoleukin and Neurogene have agreed that, subject to certain exceptions, Neoleukin and Neurogene and any of their respective subsidiaries will not, nor will either party or any of its subsidiaries authorize any of the directors, officers, employees, agents, attorneys, accountants, investment bankers, advisors or representatives retained by it or any of its subsidiaries to, directly or indirectly:

- solicit, initiate or knowingly encourage, induce or facilitate the communication, making, submission or announcement of, any Acquisition Proposal (as defined in the section of this proxy statement/prospectus entitled "*The Merger Agreement—Non-Solicitation*") or Acquisition Inquiry (as defined in the section of this proxy statement/prospectus entitled "*The Merger Agreement—Non-Solicitation*");
- furnish any non-public information with respect to it to any person in connection with or in response to an Acquisition Proposal or Acquisition Inquiry;
- engage in discussions or negotiations with any person with respect to any Acquisition Proposal or Acquisition Inquiry;
- approve, endorse or recommend an Acquisition Proposal;

- execute or enter into any letter of intent or any contract contemplating or otherwise relating to an Acquisition Proposal;
- take any action that would reasonably be expected to lead to an Acquisition Proposal or Acquisition Inquiry; or
- publicly propose to do any of the foregoing.

Board Recommendation Change (see page 165)

Neither Neurogene's board of directors nor Neoleukin's board of directors may change its recommendation in favor of the merger, except that prior to receipt by such party of its stockholder approval, such party's board of directors may effect a change in recommendation with respect to a Superior Offer (as defined in the Merger Agreement) that did not result from a material breach of the Merger Agreement if:

- such party's board of directors shall have determined in good faith, based on the advice of its outside legal counsel, that the failure to effect such change in recommendation would reasonably be expected to be inconsistent with its fiduciary duties under applicable law;
- such party has provided at least four business days' prior written notice to the other party that it intends to effect a change in recommendation, and during such period has, and has caused its lead financial advisor and outside legal counsel to, negotiate with the other party in good faith to make such adjustments to the terms and conditions so that the Acquisition Proposal ceases to constitute a Superior Offer; and
- if after other party shall have delivered to such party a written offer to alter the terms or conditions of the Merger Agreement during the four-business day period referred to above, such party's board of directors shall have determined in good faith (based on the advice of its outside legal counsel), that the failure to effect a change in recommendation would reasonably be expected to be inconsistent with its fiduciary duties under applicable law.

In the event of any material amendment to any Superior Offer, such party would be required to provide the other party with notice of such material amendment and there would be a new four business day period following such notification during which the parties would be obligated to comply again with the requirements described above.

Termination of the Merger Agreement (see page 172)

Either Neoleukin or Neurogene may terminate the Merger Agreement under certain circumstances, which would prevent the merger from being consummated.

Termination Fee (see page 174)

If the Merger Agreement is terminated under certain circumstances, Neoleukin could be required to pay Neurogene a termination fee of $3.04 million or Neurogene could be required to pay Neoleukin a termination fee of $12.0 million, plus, in each case, up to $1.0 million in expense reimbursements, respectively.

Support Agreements (see page 175)

Certain Neurogene stockholders are parties to support agreements with Neoleukin and Neurogene pursuant to which, among other things, each such stockholder, solely in his, her or its capacity as a Neurogene stockholder, has agreed to vote all of such stockholder's shares of Neurogene capital stock in favor of (i) the adoption of the Merger Agreement and (ii) the approval of the merger and related transactions contemplated by the Merger Agreement. These Neurogene stockholders also agreed to vote against any competing Acquisition Proposal with respect to Neurogene.

As of July 17, 2023, the Neurogene stockholders that are party to a support agreement with Neurogene and Neoleukin owned approximately 77% of the outstanding shares of Neurogene capital stock. These stockholders include executive officers and directors of Neurogene, as well as certain other stockholders owning a significant portion of the outstanding shares of Neurogene capital stock. Following the effectiveness of the registration statement on Form S-4 of which this proxy statement/prospectus is a part and pursuant to the Merger Agreement, Neurogene stockholders holding a sufficient number of shares of Neurogene capital stock to adopt the Merger Agreement and approve the merger and related transactions contemplated by the Merger Agreement will execute a written consent providing for such adoption and approval.

Certain Neoleukin stockholders are parties to support agreements with Neoleukin and Neurogene pursuant to which, among other things, each such stockholder, solely in his, her or its capacity as a Neoleukin stockholder, has agreed to vote all of such stockholder's shares of Neoleukin common stock in favor of (i) the Merger Agreement (ii) an amendment to Neoleukin's charter to, if deemed appropriate by the parties, (a) effect a reverse stock split and/or (b) increase the number of authorized shares of Neoleukin's common stock, (iii) an increase in the number of shares available for issuance under Neoleukin's existing equity incentive plan and/or approval of a new Neoleukin equity incentive plan in a form provided by Neurogene and approved by Neoleukin, and (iv) a new employee stock purchase plan. These Neoleukin stockholders also agreed to vote against any competing Acquisition Proposal with respect to Neoleukin.

As of July 17, 2023, the Neoleukin stockholders that are party to a support agreement with Neoleukin and Neurogene owned approximately 21% of the outstanding shares of Neoleukin common stock. These stockholders include executive officers and directors of Neoleukin, as well as certain other stockholders owning a significant portion of the outstanding shares of Neoleukin common stock.

Lock-Up Agreements (see page 176)

Certain of Neurogene's executive officers, directors and stockholders have entered into lock-up agreements, pursuant to which such parties have agreed not to, except in limited circumstances, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, certain shares of Neoleukin's common stock or any securities convertible into or exercisable or exchangeable for Neoleukin common stock, currently or thereafter owned, from the effective time. The lock-up agreements do not apply to shares of Neoleukin common stock that may be purchased in the open market or shares of Neoleukin common stock or pre-funded warrants (including shares of Neoleukin common stock issued upon exercise of such pre-funded warrants) issued in exchange for shares of Neurogene common stock or Neurogene pre-funded warrants purchased in the Neurogene pre-closing financing.

Certain of Neoleukin's directors have entered into lock-up agreements, pursuant to which such directors have agreed not to, except in limited circumstances, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Neoleukin's common stock or any securities convertible into or exercisable or exchangeable for Neoleukin common stock, currently or thereafter owned, from the effective time until 180 days after the effective time.

Contingent Value Rights Agreement (see page 178)

At or prior to the effective time, Neoleukin, its designated rights agent and a lease representative will enter into the CVR Agreement. As provided in the Merger Agreement, Neoleukin intends to declare a dividend to each person who, as of immediately prior to the effective time, was a stockholder of record of Neoleukin or had the right to receive Neoleukin's common stock pursuant to an existing Neoleukin pre-funded warrant, and such

dividend shall be in the form of the right to receive one non-transferable CVR for each outstanding share of Neoleukin common stock held by such stockholder or warrant holder as of such date. Any shares subsequently issued upon exercise of a Neoleukin option held by an employee, director or consultant of Neoleukin as of immediately prior to the effective time will also be entitled to one CVR per such issued share; provided, however that pursuant to the CVR Agreement, the holder of such later issued CVR will not be entitled to receive any payments made on the CVR prior to such issuance. Each CVR will represent the non-transferable contractual right to receive certain contingent payments from the combined company upon the occurrence of certain events within agreed time periods (the "CVR distribution").

Pursuant to, and subject to the terms and conditions of, the CVR Agreement, each CVR holder is entitled to certain rights to receive a pro rata portion of the net proceeds, if any, derived from (a) certain net proceeds, if any, derived from any consideration that is paid as a result of the disposition of Neoleukin's pre-merger legacy assets pursuant to one or more agreements entered into before or within one year after the effective time and realized by June 30, 2029, and (b) certain net savings, if any, realized by Neoleukin by June 30, 2029 in connection with the reduction of Neoleukin's legacy lease obligations, and (c) certain net proceeds, if any, derived from Neoleukin's anticipated sales tax refund from Washington State and received by Neoleukin by June 30, 2029. Such proceeds will be paid in either cash or shares of the combined company, at the election of the combined company, and are subject to certain permitted deductions, including for applicable tax payments, certain expenses incurred by the combined company or its affiliates and losses incurred or reasonably expected to be incurred by the combined company or its affiliates due to a third party proceeding in connection with a disposition and certain wind-down costs.

The CVRs may not be transferred, pledged, hypothecated, encumbered, assigned or otherwise disposed of (whether by sale, merger, consolidation, liquidation, dissolution, dividend, distribution or otherwise), in whole or in part, subject to certain limited exceptions.

The CVRs will not be evidenced by a certificate or any other instrument. The CVRs will not have any voting or dividend rights, and interest will not accrue on any amounts payable in respect of the CVRs. The CVRs will not represent any equity or ownership interest in Neoleukin, any constituent company to the merger, or any of its respective affiliates.

Management Following the Merger (see page 313)

Effective as of the closing of the merger, the combined company's executive officers are expected to be members of the Neurogene executive management team prior to the merger, including:

Name	Title
Rachel McMinn	Founder and Chief Executive Officer
Christine Mikail	President and Chief Financial Officer
Stuart Cobb	Chief Scientific Officer

Material U.S. Federal Income Tax Considerations of the Merger (see page 142)

For a discussion summarizing U.S. federal income tax considerations of the merger, see the section entitled "*The Merger—Material U.S. Federal Income Tax Considerations of the Merger.*"

Risk Factors (see page 28)

Both Neoleukin and Neurogene are subject to various risks associated with their businesses and their industries. In addition, the merger, including the possibility that the merger may not be completed, poses a number of risks to each company and its respective securityholders, including the following risks:

Risks Related to the Merger

- The exchange ratio will not change or otherwise be adjusted based on the market price of Neoleukin common stock as the exchange ratio depends on the Neoleukin net cash at the closing and the proceeds received by Neurogene in the pre-closing financing, and not the market price of Neoleukin common stock. Therefore, the merger consideration at the closing may have a greater or lesser value than at the time the Merger Agreement was signed;
- Failure to complete the merger may result in Neoleukin or Neurogene paying a termination fee to the other party and could harm the common stock price of Neoleukin and the future business and operations of each company;
- If the conditions to the merger are not satisfied or waived, the merger may not occur;
- Some Neoleukin and Neurogene executive officers and directors have interests in the merger that are different from yours and that may influence them to support or approve the merger without regard to your interests; and
- Neoleukin stockholders and Neurogene stockholders may not realize a benefit from the merger commensurate with the ownership dilution they will experience in connection with the merger.

Risks Related to Neoleukin

- Failure to complete, or delays in completing, the proposed merger with Neurogene could materially and adversely affect Neoleukin's results of operations, business financial results and/or stock price;
- Neoleukin's stockholders potentially may not receive any payment on the CVRs and the CVRs may otherwise expire valueless; and
- Neoleukin's equityholders will have a reduced ownership and voting interest in, and will exercise less influence over the management of, Neoleukin following the closing of the merger as compared to their current ownership and voting interest in Neoleukin; and If Neoleukin does not successfully consummate the merger or another strategic transaction, Neoleukin's board of directors may decide to pursue a dissolution and liquidation of Neoleukin. In such an event, the amount of cash available for distribution to its stockholders will depend heavily on the timing and costs of such liquidation as well as the amount of cash that will need to be reserved for commitments and contingent liabilities.

Risks Related to Neurogene

- Neurogene has a limited operating history, has not completed any clinical trials, and has no products approved for commercial sale, which may make it difficult for you to evaluate its current business and likelihood of success and viability;
- Even if the merger and Neurogene pre-closing financing are successful, Neurogene will require substantial additional capital to finance its operations in the future. If Neurogene is unable to raise such capital when needed, or on acceptable terms, Neurogene may be forced to delay, reduce or eliminate clinical trials, product development programs or future commercialization efforts;
- NGN-401, NGN-101 and Neurogene's other programs are in early stages of development and may fail in development or suffer delays that materially and adversely affect their commercial viability. If Neurogene or its current or future collaborators are unable to complete development of, or commercialize, Neurogene's product candidates, or experience significant delays in doing so, its business will be materially harmed;

- Neurogene intends to identify and develop novel gene therapy product candidates, which makes it difficult to predict the time, cost and potential success of product candidate development;
- Neurogene is substantially dependent on the success of its most advanced product candidates, NGN-401 and NGN-101,and its ongoing and anticipated clinical trials of such candidates may not be successful;
- Delays in developing Neurogene's manufacturing capabilities or failure to achieve operating efficiencies from such capabilities may require Neurogene to devote additional resources and management time to manufacturing operations and may delay Neurogene's product development timelines;
- Neurogene has a number of academic collaborations and currently relies on its collaboration with the University of Edinburgh for certain aspects of its preclinical research and development programs, including working in collaboration to discover and preclinically develop its lead product candidate for Rett syndrome and its near-term future pipeline. Failure or delay of the University of Edinburgh or any other collaborator to fulfill all or part of its obligations under its agreement with Neurogene, a breakdown in collaboration between the parties or a complete or partial loss of the relationship would materially harm Neurogene's business;
- In order to successfully implement its plans and strategies, Neurogene will need to grow the size of Neurogene's organization and Neurogene may experience difficulties in managing this growth;
- Neurogene's ability to protect its patents and other proprietary rights is uncertain, exposing Neurogene to the possible loss of competitive advantage; and
- The regulatory approval processes of the FDA and other comparable foreign regulatory authorities are lengthy, time-consuming and inherently unpredictable. If Neurogene is not able to obtain, or if there are delays in obtaining, required regulatory approvals for its product candidates, Neurogene will not be able to commercialize, or will be delayed in commercializing, such product candidates, and its ability to generate revenue will be materially impaired.

Risks Related to the Combined Company

- The market price of the combined company's common stock is expected to be volatile, the market price of the common stock may drop following the merger;
- The combined company will need to raise additional financing in the future to fund its operations, which may not be available to it on favorable terms or at all;
- If the assets subject to the CVR Agreement are not disposed of in a timely manner, the combined company may have to incur time and resources to wind down or dispose of such assets;
- An active trading market for the combined company's common stock may not develop and its stockholders may not be able to resell their shares of common stock for a profit, if at all;
- After completion of the merger, the combined company's executive officers, directors and principal stockholders will have the ability to control or significantly influence all matters submitted to the combined company's stockholders for approval; and
- The combined company will have broad discretion in the use of the cash and cash equivalents of the combined company and the proceeds from the Neurogene pre-closing financing and may invest or spend the proceeds in ways with which you do not agree and in ways that may not increase the value of your investment.

These risks and other risks are discussed in greater detail under the section entitled "Risk Factors" beginning on page 28 of this proxy statement/prospectus. Neoleukin and Neurogene both encourage you to read and consider all of these risks carefully.

Nasdaq Stock Market Listing (see page 145)

Neoleukin intends to file an initial listing application for the combined company common stock with Nasdaq. If such application is accepted, Neoleukin anticipates that the common stock of the combined company will be listed on Nasdaq following the closing of the merger under the trading symbol "NGNE."

Anticipated Accounting Treatment (see page 145)

The merger is expected to be treated by Neoleukin as a reverse asset purchase in accordance with U.S. generally accepted accounting principles ("GAAP"). For accounting purposes, Neurogene is considered to be acquiring the assets and liabilities of Neoleukin in this transaction based on the terms of the Merger Agreement and other factors, including: (i) Neurogene's equityholders will own a substantial majority of the voting rights in the combined company; (ii) Neurogene's largest stockholder will retain the largest interest in the combined company; (iii) Neurogene will designate a majority (five of seven) of the initial members of the board of directors of the combined company; and (iv) Neurogene's executive management team will become the management of the combined company. The combined company will be named Neurogene Inc. and be headquartered in New York, New York. Accordingly, the merger is expected to be treated as the equivalent of Neurogene issuing stock to acquire the net assets of Neoleukin. As a result of the merger, the net assets of Neoleukin will be stated at fair value, which approximates carrying value, with no goodwill or other intangible assets recorded, and the historical results of operations prior to the merger will be those of Neurogene. See the "*Unaudited Pro Forma Condensed Combined Financial Information*" elsewhere in this proxy statement/prospectus for additional information.

Appraisal Rights and Dissenters' Rights (see page 145)

Holders of Neoleukin common stock are not entitled to appraisal rights in connection with the merger under Delaware law. Holders of Neurogene capital stock are entitled to appraisal rights in connection with the merger under Delaware law.

Comparison of Stockholder Rights (see page 340)

Both Neoleukin and Neurogene are incorporated under the laws of the State of Delaware and, accordingly, the rights of the stockholders of each are currently, and will continue to be, governed by the Delaware General Corporation Law ("DGCL"). If the merger is completed, Neurogene stockholders will become Neoleukin stockholders, and their rights will be governed by the DGCL, the amended and restated bylaws of Neoleukin ("Neoleukin's bylaws") and Neoleukin's charter, as may be further amended by Proposal Nos. 2, 3 and 4 if approved by the Neoleukin stockholders at the Neoleukin special meeting. The rights of Neoleukin stockholders contained in Neoleukin's charter and bylaws differ from the rights of Neurogene stockholders under the amended and restated certificate of incorporation of Neurogene ("Neurogene's charter) and the bylaws of Neurogene ("Neurogene's bylaws"), as more fully described under the section entitled "*Comparison of Rights of Holders of Neoleukin Capital Stock and Neurogene Capital Stock*" beginning on page 340 of this proxy statement/prospectus.

RISK FACTORS

The combined company will be faced with a market environment that cannot be predicted and that involves significant risks, many of which will be beyond its control. In addition to the other information contained or incorporated by reference in this proxy statement/prospectus, you should carefully consider the material risks described below before deciding how to vote your shares of Neoleukin Therapeutics, Inc., a Delaware corporation ("Neoleukin") common stock. You should also read and consider the other information in this proxy statement/prospectus. Please see the section entitled "Where You Can Find More Information" beginning on page 362 of this proxy statement/prospectus for further information.

Risks Related to the Merger

The exchange ratio will not change or otherwise be adjusted based on the market price of Neoleukin common stock as the exchange ratio depends on the Neoleukin net cash at the closing and proceeds received by Neurogene Inc., a Delaware corporation ("Neurogene") in the pre-closing financing, not the market price of Neoleukin common stock. Therefore, the merger consideration at the closing may have a greater or lesser value than at the time the Merger Agreement (as defined below) was signed.

On July 17, 2023, Neoleukin, Project North Merger Sub, Inc., a Delaware corporation and wholly owned subsidiary of Neoleukin ("Merger Sub"), and Neurogene entered into an Agreement and Plan of Merger (the "Merger Agreement"), pursuant to which Merger Sub will merge with and into Neurogene, with Neurogene surviving as a wholly owned subsidiary of Neoleukin. At the effective time, as described in the Merger Agreement, outstanding shares of Neurogene capital stock and prefunded warrants will be converted into shares of Neoleukin common stock or prefunded warrants to purchase Neoleukin common stock. Applying the exchange ratio, the former Neurogene securityholders immediately before the merger, including shares of Neurogene common stock and Neurogene pre-funded warrants to be issued in the Neurogene pre-closing financing, are expected to own approximately 84% of the aggregate number of shares of Neoleukin capital stock, and Neoleukin securityholders immediately before the merger are expected to own approximately 16% of the aggregate number of shares of Neoleukin capital stock calculated using the treasury stock method (the "TSM") and, subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being not less than the Target Parent Net Cash (as defined in the Merger Agreement) amount and the receipt by Neurogene of an aggregate of $95.0 million in the Neurogene pre-closing financing. In the event Neoleukin's net cash is below the Target Parent Net Cash amount, the exchange ratio will be adjusted such that the number of shares issued to the pre-merger Neurogene securityholders will be increased, and Neoleukin stockholders will own a smaller percentage of the combined company following the merger. In the event that Neoleukin's net cash at closing is greater than Target Parent Net Cash amount or the aggregate proceeds from the Neurogene pre-closing financing are less than $95.0 million, the exchange ratio will be adjusted such that the number of shares issued to pre-merger Neurogene stockholders will be decreased, and Neoleukin stockholders will own a larger percentage of the combined company following the merger.

Any changes in the market price of Neoleukin stock before the completion of the merger will not affect the number of shares Neurogene stockholders will be entitled to receive pursuant to the Merger Agreement. Therefore, if before the completion of the merger, the market price of Neoleukin common stock increases from the market price on the date of the Merger Agreement, then Neurogene stockholders could receive merger consideration with substantially more value for their shares of Neurogene capital stock than the parties had negotiated when they established the exchange ratio. Similarly, if before the completion of the merger the market price of Neoleukin common stock declines from the market price on the date of the Merger Agreement, then Neurogene stockholders could receive merger consideration with substantially lower value. The Merger Agreement does not include a price-based termination right.

Failure to complete the merger may result in either Neoleukin or Neurogene paying a termination fee to the other party, and could harm the common stock price of Neoleukin and future business and operations of each company.

If the merger is not completed, Neoleukin and Neurogene are subject to the following risks:

- if the Merger Agreement is terminated under specified circumstances, Neoleukin could be required to pay Neurogene a termination fee of $3.04 million, or Neurogene could be required to pay Neoleukin a termination fee of $12.0 million, plus, in each case, up to $1.0 million in expense reimbursements;
- the price of Neoleukin common stock may decline and could fluctuate significantly; and
- each party will still incur costs related to the merger, such as financial advisor, legal and accounting fees, a majority of which must be paid even if the merger is not completed.

If the Merger Agreement is terminated and the board of directors of Neoleukin or Neurogene determines to seek another business combination, there can be no assurance that either Neoleukin or Neurogene will be able to find another third party to transact a business combination with, yielding comparable or greater benefits.

If the conditions to the merger are not satisfied or waived, the merger may not occur.

Even if the merger is approved by the stockholders of Neoleukin, including Proposal No. 1 and either or both of Proposal Nos. 2 and 4 as described in this proxy statement/prospectus, specified conditions must be satisfied or, to the extent permitted by applicable law, waived to complete the merger. These conditions are set forth in the Merger Agreement and each material condition to the completion of the merger is described in the section entitled "*The Merger Agreement—Conditions to the Completion of the Merger*" beginning on page 168 of this proxy statement/prospectus. Neoleukin and Neurogene cannot assure you that all of the conditions to the consummation of the merger will be satisfied or waived. If the conditions are not satisfied or waived, the merger may not occur or the closing may be delayed.

The merger may be completed even though a material adverse effect may result from the announcement of the merger, industry-wide changes or other causes.

In general, neither Neoleukin nor Neurogene is obligated to complete the merger if there is a material adverse effect affecting the other party between July 17, 2023, the date of the Merger Agreement, and the closing of the merger. However, certain types of causes are generally excluded from the concept of a "material adverse effect." Such exclusions include but are not limited to changes in general economic or political conditions, industry wide changes, changes resulting from the announcement of the merger, natural disasters, pandemics, other force majeure events, acts or threat of terrorism or war and changes in U.S. generally accepted accounting principles ("GAAP") or applicable law. Therefore, if any of these events were to occur and adversely affect Neoleukin or Neurogene, the other party would still be obliged to consummate the closing of the merger notwithstanding such material adverse effect. If any such adverse effects occur and Neoleukin and Neurogene consummate the closing of the merger, the stock price of the combined company may suffer. This in turn may reduce the value of the merger to the stockholders of Neoleukin, Neurogene or both. For a more complete discussion of what constitutes a material adverse effect on Neoleukin or Neurogene, see the section entitled "*The Merger Agreement—Representations and Warranties*" beginning on page 158 of this proxy statement/prospectus.

If Neoleukin and Neurogene complete the merger, the combined company will need to raise additional capital by issuing equity securities or additional debt or through licensing arrangements, which may cause significant dilution to the combined company's stockholders or restrict the combined company's operations.

On July 17, 2023, Neurogene entered into subscription agreements with certain investors, including existing investors of Neurogene, pursuant to which the investors agreed to purchase, in the aggregate, $95 million in

shares of common stock and pre-funded warrants of Neurogene immediately prior to the closing of the merger, referred to as the Neurogene pre-closing financing. The closing of the Neurogene pre-closing financing is conditioned upon the satisfaction or waiver of the conditions to the closing of the merger as well as certain other conditions. The shares of Neurogene common stock and pre-funded warrants issued in the Neurogene pre-closing financing will result in dilution to all securityholders of the combined company (i.e., both the pre-merger Neoleukin securityholders and former Neurogene securityholders). The Neurogene pre-closing financing is more fully described under the section entitled "*Agreements Related to the Merger —Subscription Agreement*" beginning on page 176 of this proxy statement/prospectus.

Additional financing may not be available to the combined company when it is needed or may not be available on favorable terms. To the extent that the combined company raises additional capital by issuing equity securities, such financing will cause additional dilution to all securityholders of the combined company, including Neoleukin's pre-merger securityholders and Neurogene's former securityholders. It is also possible that the terms of any new equity securities may have preferences over the combined company's common stock. Any debt financing the combined company enters into may involve covenants that restrict its operations. These restrictive covenants may include limitations on additional borrowing and specific restrictions on the use of the combined company's assets, as well as prohibitions on its ability to create liens, pay dividends, redeem its stock or make investments. In addition, if the combined company raises additional funds through licensing arrangements, it may be necessary to grant licenses on terms that are not favorable to the combined company.

Some Neoleukin and Neurogene directors and executive officers have interests in the merger that are different from yours and that may influence them to support or approve the merger without regard to your interests.

Directors and executive officers of Neoleukin and Neurogene may have interests in the merger that are different from, or in addition to, the interests of other Neoleukin stockholders generally. These interests with respect to Neoleukin's directors and executive officers may include, among others, acceleration of stock option or restricted stock unit vesting, bonus payments, extension of exercisability periods of previously issued stock option grants, severance payments if employment is terminated in a qualifying termination in connection with the merger and rights to continued indemnification, expense advancement and insurance coverage. Two members of the Neoleukin board of directors will continue as directors of the combined company after the effective time, and, following the closing of the merger, will be eligible to be compensated as non-employee directors of the combined company. These interests with respect to Neurogene's directors and executive officers may include, among others, the conversion of options to purchase shares of Neurogene common stock held by certain of Neurogene's directors and executive officers into options to purchase shares of the common stock of the combined company at the effective time; the expected continuation of certain of Neurogene's executive officers as executive officers of the combined company after the effective time; and the provision to all of Neurogene's directors and executive officers of certain indemnification and liability insurance coverage pursuant to the terms of the Merger Agreement.

In addition, certain of Neurogene's directors are affiliated with investment funds which hold an interest in Neurogene and are participating in the Neurogene pre-closing financing. Further, certain current members of Neurogene's board of directors will continue as directors of the combined company after the effective time, and, following the closing of the merger, will be eligible to be compensated as non-employee directors of the combined company pursuant to the Neoleukin non-employee director compensation policy that is expected to remain in place following the effective time.

The Neoleukin and Neurogene boards of directors were aware of and considered those interests, among other matters, in reaching their decisions to approve and adopt the Merger Agreement, approve the merger, and recommend the approval of the Merger Agreement to Neoleukin and Neurogene stockholders. These interests, among other factors, may have influenced the directors and executive officers of Neoleukin and Neurogene to support or approve the merger.

For more information regarding the interests of Neoleukin and Neurogene directors and executive officers in the merger, please see the sections entitled "*The Merger—Interests of Neoleukin's Directors and Executive Officers in the Merger*" beginning on page 131 and "*The Merger—Interests of Neurogene's Directors and Executive Officers in the Merger*" beginning on page 138 of this proxy statement/prospectus.

Neoleukin stockholders and Neurogene stockholders may not realize a benefit from the merger commensurate with the ownership dilution they will experience in connection with the merger, including the conversion of Neurogene common stock issued in the Neurogene pre-closing financing.

If the combined company is unable to realize the full strategic and financial benefits currently anticipated from the merger, Neoleukin stockholders and Neurogene stockholders will have experienced substantial dilution of their ownership interests without receiving any commensurate benefit, or only receiving part of the commensurate benefit to the extent the combined company is able to realize only part of the strategic and financial benefits currently anticipated from the merger.

If the merger is not completed, Neoleukin's stock price may decline significantly.

The market price of Neoleukin common stock is subject to significant fluctuations. Market prices for securities of pharmaceutical, biotechnology and other life science companies have historically been particularly volatile. In addition, the market price of Neoleukin common stock will likely be volatile based on whether stockholders and other investors believe that Neoleukin can complete the merger or otherwise raise additional capital to support Neoleukin's operations if the merger is not consummated and another strategic transaction cannot be identified, negotiated and consummated in a timely manner, or at all. The volatility of the market price of Neoleukin common stock has been and may be exacerbated by low trading volume. Additional factors that may cause the market price of Neoleukin common stock to fluctuate include:

- the loss of key employees;
- future sales of its common stock;
- general and industry-specific economic conditions that may affect its research and development expenditures;
- the failure to meet industry analyst expectations; and
- period-to-period fluctuations in financial results.

Moreover, the stock markets in general have experienced substantial volatility that has often been unrelated to the operating performance of individual companies. These broad market fluctuations may also adversely affect the trading price of Neoleukin common stock. In the past, following periods of volatility in the market price of a company's securities, stockholders have often instituted class action securities litigation against such companies.

Neoleukin and Neurogene securityholders will generally have a reduced ownership and voting interest in, and will exercise less influence over the management of, the combined company following the completion of the merger as compared to their current ownership and voting interests in the respective companies.

After the completion of the merger, the current stockholders of Neoleukin and Neurogene will generally own a smaller percentage of the combined company than their ownership of their respective companies prior to the merger. Immediately after the merger, Neoleukin stockholders as of immediately prior to the merger are expected to own approximately 16% of the outstanding shares of capital stock of the combined company and former Neurogene securityholders, including shares of Neurogene common stock and Neurogene pre-funded warrants purchased in the Neurogene pre-closing financing, are expected to own approximately 84% of the outstanding shares of capital stock of the combined company, using the TSM and subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being not less than the Target Parent Net Cash

amount and the receipt of aggregate proceeds of $95.0 million from the Neurogene pre-closing financing. As a result, some stockholders will hold a smaller pro rata share and, therefore, a lower percentage of the voting stock of the combined company than such stockholder currently holds in Neoleukin or Neurogene as a stand-alone company, respectively.

During the pendency of the merger, each of Neoleukin and Neurogene may be limited in its ability to enter into a business combination with another party on more favorable terms because of restrictions in the Merger Agreement, which could adversely affect their respective business prospects.

Covenants in the Merger Agreement impede the ability of each of Neoleukin and Neurogene to make acquisitions during the pendency of the merger, subject to specified exceptions. As a result, if the merger is not completed, the parties may be at a disadvantage to their competitors during that period. In addition, while the Merger Agreement is in effect, each party is generally prohibited from soliciting, seeking, initiating or knowingly encouraging, inducing or facilitating the communication, making, submission or announcement of any Acquisition Proposal or Acquisition Inquiry or taking any action that could reasonably be expected to lead to certain transactions involving a third party, including a merger, sale of assets or other business combination, subject to specified exceptions. Any such transactions could be favorable to such party's stockholders, but the parties may be unable to pursue them. For more information, see the section entitled "*The Merger Agreement—Non-Solicitation*" beginning on page 163 of this proxy statement/prospectus.

Certain provisions of the Merger Agreement may discourage third parties from submitting competing proposals, including proposals that may be superior to the transactions contemplated by the Merger Agreement.

The terms of the Merger Agreement prohibit each of Neoleukin and Neurogene from soliciting competing proposals or cooperating with persons making unsolicited takeover proposals, except in limited circumstances as described in further detail in the section entitled "*The Merger Agreement—Non-Solicitation*" beginning on page 163 of this proxy statement/prospectus. In addition, if Neoleukin terminates the Merger Agreement under specified circumstances, Neoleukin could be required to pay Neurogene a termination fee of $3.04 million, or Neurogene could be required to pay Neoleukin a termination fee of $12.0 million, plus, in each case, up to $1.0 million in expense reimbursements. This termination fee may discourage third parties from submitting competing proposals to Neoleukin, Neurogene or their respective stockholders, and may cause the Neoleukin or Neurogene board of directors to be less inclined to recommend a competing proposal.

Because the lack of a public market for Neurogene's common stock makes it difficult to evaluate the fair market value of Neurogene's capital stock, the value of the Neoleukin common stock to be issued to Neurogene stockholders may be more or less than the fair market value of Neurogene's common stock.

The outstanding capital stock of Neurogene is privately held and is not traded in any public market. The lack of a public market makes it difficult to determine the fair market value of Neurogene's capital stock. Because the percentage of Neoleukin equity to be issued to Neurogene stockholders was determined based on negotiations between the parties, it is possible that the value of the Neoleukin common stock to be issued to Neurogene stockholders will be more or less than the fair market value of Neurogene's capital stock.

If the merger does not qualify as a reorganization under Section 368(a) of the Internal Revenue Code of 1986, as amended (the "Code"), U.S. holders of Neurogene common stock may be taxed on the full amount of the consideration received in the merger.

As discussed more fully under the section entitled "*The Merger—Material U.S. Federal Income Tax Considerations of the Merger*," the merger is intended to qualify for U.S. federal income tax purposes as a "reorganization" within the meaning of Section 368(a) of the Code. Assuming the merger so qualifies, no gain will be recognized by U.S. holders (as defined in the section entitled "*The Merger—Material U.S. Federal*

Income Tax Considerations of the Merger") of Neurogene common stock who receive only Neoleukin common stock in the merger. It is not, however, a condition to Neurogene's obligation or Neoleukin's obligation to complete the transactions that the merger so qualifies. Neurogene and Neoleukin have not sought and will not seek any ruling from the IRS regarding any matters relating to the transactions and, as a result, there can be no assurance that the IRS would not assert, or that a court would not sustain, a position contrary to any of the conclusions set forth herein. If the merger does not qualify for the U.S. federal income tax treatment described herein, U.S. holders of Neurogene common stock may be taxed on any gain realized up to the full fair market value of any Neoleukin common stock received in the merger.

The tax treatment of the Contingent Value Rights ("CVRs") is uncertain.

There is no authority directly on point addressing whether contingent value rights with characteristics similar to the CVRs should be treated for federal income tax purposes as a distribution of property with respect to its stock, an "open transaction," or in some other manner, and such questions are inherently factual in nature. Accordingly, holders are urged to consult with their tax advisors regarding this issue.

However, based on the specific characteristics of the CVRs, and unless otherwise required by a change in law after the date of the CVR Agreement (as defined below), Neoleukin intends to take the position that the fair market value of the CVRs cannot be reasonably ascertained on the date of the issuance of the CVRs and, accordingly, the issuance of the CVRs constitutes an "open transaction." Unless otherwise required by a change in law or the good-faith resolution of a tax controversy, Neoleukin will not report the issuance of the CVRs as a current distribution of property with respect to its stock and will instead report each future cash payment (if any) on the CVRs as a distribution by Neoleukin for U.S. federal income tax purposes, with each such payment being reported as a dividend to the extent of Neoleukin's current or accumulated earnings and profits in the year in which such payment is made.

If Neoleukin's intended reporting position is correct, a U.S. holder (as defined in the section entitled "*The Merger—Material U.S. Federal Income Tax Considerations of the Merger*") would not generally recognize income in respect of the CVRs at the time they are distributed and would take no tax basis in the CVRs. Any future cash payments would constitute a dividend to the extent of Neoleukin's current or accumulated earnings and profits (as determined for U.S. federal income tax purposes) in the taxable year of such payment, then as a non-taxable return of capital to the extent of such holder's basis in its Neoleukin common stock, and finally as capital gain from the sale or exchange of Neoleukin common stock. Dividends received by individual U.S. holders are eligible for reduced rates of taxation applicable to long-term capital gains, provided certain holding period requirements are met.

It is possible that the IRS could instead assert that the issuance of the CVRs should be treated as a "closed transaction." Under "closed transaction" treatment, a U.S. holder would be treated as receiving a distribution equal to the fair market value of the CVRs at the time they are issued to such U.S. holder. The amount of this distribution generally would be treated first as a taxable dividend to the extent of the U.S. holder's pro rata share of Neoleukin's current or accumulated earnings and profits (as determined for U.S. federal income tax purposes), then as a non-taxable return of capital to the extent of the U.S. holder's basis in its Neoleukin common stock, and finally as capital gain from the sale or exchange of Neoleukin common stock. A U.S. holder's tax basis in the CVRs received would equal the fair market value of the CVRs at the time they are issued and the holding period of the CVRs received would begin on the day following the date they are issued. Although not free from doubt, a future cash payment under a CVR would likely be treated as a non-taxable return of a U.S. holder's adjusted tax basis in the CVR to the extent thereof, although the timing of the recovery of a U.S. holder's tax basis is unclear. A payment in excess of such amount may be treated as a payment with respect to a sale of a capital asset, ordinary income or dividends. Additionally, it is possible that a portion of future cash payments would constitute imputed interest and taxed as such. A U.S. holder might recognize loss, which might be a capital loss and could be a long-term capital loss, upon the expiration of the CVR to the extent cash payments ultimately received pursuant to such CVR were less than the U.S. holder's adjusted tax basis in the CVRs, but whether and when such a loss would be recognized is unclear. The deductibility of capital losses is subject to limitations.

It is possible, although Neoleukin believes unlikely, that the issuance of the CVRs could be treated as one or more "debt instruments" or as a distribution of equity.

U.S. holders are urged to consult their tax advisors with respect to the proper characterization of the CVRs and the tax considerations thereof (including any future cash payments made under the CVRs).

Risks Related to the Proposed Reverse Stock Split

The reverse stock split may not increase the combined company's stock price over the long-term.

The principal purposes of the reverse stock split are to (i) increase the per-share market price of Neoleukin's common stock above the minimum bid price requirement under the Nasdaq rules so that the listing of Neoleukin as the combined company and the shares of Neoleukin common stock being issued in the merger on Nasdaq will be approved and (ii) increase the number of authorized and unissued shares available for future issuance in connection with the merger. It cannot be assured, however, that the reverse stock split will accomplish any increase in the per-share market price of the combined company's common stock for any meaningful period of time. While it is expected that the reduction in the number of outstanding shares of common stock will proportionally increase the market price of the combined company's common stock, it cannot be assured that the reverse stock split will increase the market price of its common stock by a multiple of the reverse stock split ratio mutually agreed by Neoleukin and Neurogene, or result in any permanent or sustained increase in the market price of Neoleukin's common stock, which is dependent upon many factors, including the combined company's business and financial performance, general market conditions and prospects for future success. Thus, while the stock price of the combined company might meet the listing requirements for Nasdaq initially after the reverse stock split, it cannot be assured that it will continue to do so.

The reverse stock split may decrease the liquidity of the combined company's common stock.

Although the Neoleukin board of directors believes that the anticipated increase in the market price of the combined company's common stock resulting from the proposed reverse stock split could encourage interest in its common stock and possibly promote greater liquidity for its stockholders, such liquidity could also be adversely affected by the reduced number of shares outstanding after the reverse stock split. The reduction in the number of outstanding shares may lead to reduced trading and a smaller number of market makers for the combined company's common stock. In addition, the reverse stock split may not result in an increase in the combined company's stock price necessary to satisfy Nasdaq's initial listing requirements for the combined company.

The reverse stock split may lead to a decrease in the combined company's overall market capitalization.

Should the market price of the combined company's common stock decline after the reverse stock split, the percentage decline may be greater, due to the smaller number of shares outstanding, than it would have been prior to the reverse stock split. A reverse stock split is often viewed negatively by the market and, consequently, can lead to a decrease in the combined company's overall market capitalization. If the per share market price does not increase in proportion to the reverse stock split ratio, then the value of the combined company, as measured by its stock capitalization, will be reduced. In some cases, the per-share stock price of companies that have effected reverse stock splits subsequently declined back to pre-reverse split levels, and accordingly, it cannot be assured that the total market value of the combined company's common stock will remain the same after the reverse stock split is effected, or that the reverse stock split will not have an adverse effect on the combined company's stock price due to the reduced number of shares outstanding after the reverse stock split.

Risks Related to Neoleukin's Strategic Alternative Process and Potential Strategic Transaction

Failure to complete, or delays in completing, the proposed merger transaction with Neurogene could materially and adversely affect Neoleukin's results of operations, business, financial results and/or stock price.

In March 2023, Neoleukin announced that it intended to conduct a comprehensive review of strategic alternatives for Neoleukin and its assets. After a comprehensive review of strategic alternatives, including identifying and reviewing potential candidates for the merger, on July 17, 2023, Neoleukin entered into the Merger Agreement with Neurogene and Merger Sub, pursuant to which, subject to the satisfaction or waiver of the conditions therein, Merger Sub will merge with and into Neurogene, with Neurogene surviving as a wholly owned subsidiary of Neoleukin. The closing of the merger is subject to approval by the stockholders of Neoleukin and Neurogene as well as other customary closing conditions, including the effectiveness of a registration statement filed with the SEC in connection with the transaction. If the merger is completed, the business of Neurogene will continue as the business of the combined company. Any failure to satisfy a required condition to closing may prevent, delay or otherwise materially and adversely affect the completion of the transaction, which could materially and adversely affect Neoleukin's results of operations, business, financial results and/or stock price. Neoleukin cannot predict with certainty whether or when any of the required closing conditions will be satisfied or if another uncertainty may arise and cannot assure you that the proposed merger will be successfully consummated or that Neoleukin will be able to successfully consummate the proposed merger as currently contemplated under the Merger Agreement or at all.

Neoleukin's efforts to complete the merger could cause substantial disruptions in, and create uncertainty surrounding, Neoleukin's business, which may materially adversely affect Neoleukin's results of operations and Neoleukin's business. Uncertainty as to whether the merger will be completed may affect Neoleukin's ability to retain and motivate existing employees or recruit prospective employees if vacancies in staffing need to be filled. Employee retention may be particularly challenging while the transaction is pending because employees may experience uncertainty about their roles following the transaction. A substantial amount of Neoleukin's management's and employees' attention is being directed toward the completion of the transaction and thus is being diverted from Neoleukin's day-to-day operations. Uncertainty as to Neoleukin's future could adversely affect Neoleukin's business and Neoleukin's relationship with suppliers, vendors, regulators and other business partners. For example, vendors and other counterparties may defer decisions about working with Neoleukin or seek to change existing business relationships with Neoleukin. Changes to, or termination of, existing business relationships could adversely affect Neoleukin's results of operations and financial condition, as well as the market price of Neoleukin's common stock. The adverse effects of the pendency of the transaction could be exacerbated by any delays in completion of the transaction or termination of the Merger Agreement.

Risks related to the failure to consummate, or delay in consummating, the proposed merger transaction with Neurogene include, but are not limited to, the following:

- Neoleukin would not realize any or all of the potential benefits of the merger, which could have a negative effect on Neoleukin's results of operations, business or stock price;
- under some circumstances, Neoleukin may be required to pay a termination fee to Neurogene of $3.04 million, and/or expense reimbursement of up to $1.0 million;
- Neoleukin would remain liable for significant transaction costs, including legal, accounting, financial advisory and other costs relating to the merger regardless of whether the merger is consummated;
- the trading price of Neoleukin's common stock may decline to the extent that the current market price for Neoleukin's stock reflects a market assumption that the merger will be completed;
- the attention of Neoleukin's management and employees may have been diverted to the merger rather than to Neoleukin's operations and the pursuit of other opportunities, including other strategic alternatives, that could have been beneficial to Neoleukin;

- Neoleukin could be subject to litigation related to any failure to complete the merger;
- Neoleukin could potentially lose key personnel during the pendency of the merger as employees and other service providers may experience uncertainty about their future roles with Neoleukin following completion of the merger; and
- under the Merger Agreement, Neoleukin is subject to certain customary restrictions on the conduct of Neoleukin's business prior to completing the merger, which restrictions could adversely affect Neoleukin's ability to conduct Neoleukin's business as Neoleukin otherwise would have done if Neoleukin was not subject to these restrictions.

The occurrence of any of these events individually or in combination could materially and adversely affect Neoleukin's results of operations, business and stock price.

Neoleukin cannot be sure if or when the merger will be completed.

The consummation of the merger is subject to the satisfaction or waiver of various conditions, including the authorization of the merger by Neoleukin's stockholders and Neurogene's stockholders. Neoleukin cannot guarantee that the closing conditions set forth in the Merger Agreement will be satisfied. If Neoleukin is unable to satisfy certain closing conditions or if other mutual closing conditions are not satisfied, Neurogene will not be obligated to complete the merger. Under certain circumstances, Neoleukin would be required to pay Neurogene a termination fee of $3.04 million, and/or expense reimbursement of Neurogene of up to $1.0 million.

If the merger is not completed, Neoleukin's board of directors, in discharging its fiduciary obligations to Neoleukin's stockholders, would evaluate other strategic alternatives or financing options that may be available, which alternatives may not be as favorable to Neoleukin's stockholders as the merger, including a liquidation and dissolution. Any future sale or merger, financing or other transaction, including a liquidation or dissolution, may be subject to further stockholder approval. Neoleukin may also be unable to find, evaluate or complete other strategic alternatives, which may have a materially adverse effect on Neoleukin's business.

Until the merger is completed, the Merger Agreement restricts Neoleukin from taking specified actions without the consent of Neurogene, and requires Neoleukin to operate in the ordinary course of business consistent with past practice. These restrictions may prevent Neoleukin from making appropriate changes to its business or pursuing attractive business opportunities that may arise prior to the completion of the merger. Further, if Neoleukin's net cash at closing is lower than anticipated, either because expenses exceed current estimates or due to delays prior to closing, then the pre-merger stockholders of Neoleukin will own less of the combined company pursuant to the exchange ratio adjustment set forth in the Merger Agreement. Neoleukin maintaining a minimum of the net cash amount is a condition to closing the merger.

Any delay in completing the proposed merger may materially and adversely affect the timing and benefits that are expected to be achieved from the proposed merger.

The exchange ratio set forth in the Merger Agreement is not adjustable based on the market price of Neoleukin's common stock, so the merger consideration at the closing of the merger may have a greater or lesser value than at the time the Merger Agreement was signed.

The Merger Agreement has set the exchange ratio for Neurogene capital stock being converted into Neoleukin's common stock, and the exchange ratio is based on the relative value of Neurogene and Neoleukin as determined pursuant to the Merger Agreement, in each case immediately prior to the closing of the merger. Assuming Neoleukin has Target Parent Net Cash at closing and Neurogene receives the expected $95.0 million in aggregate proceeds from the Neurogene pre-closing financing, applying the exchange ratio formula in the Merger Agreement, the former Neurogene securityholders immediately before the merger are expected to own approximately 84% of outstanding capital stock of the combined company immediately following the merger,

and the securityholders of Neoleukin immediately before the merger are expected to own approximately 16% of outstanding capital stock of the combined company immediately following the merger, in each case, calculated using the TSM and after giving effect to the Neurogene pre-closing financing and subject to certain assumptions detailed in the Merger Agreement. Under certain circumstances further described in the Merger Agreement, however, these ownership percentages may be adjusted upward or downward based on the net cash held by Neoleukin at the closing of the merger and the aggregate proceeds of the Neurogene pre-closing financing, and as a result, either the Neoleukin stockholders or the Neurogene stockholders could own less of the combined company than expected.

Any changes in the market price of Neoleukin's common stock before the completion of the merger will not affect the number of shares of Neoleukin's common stock issuable to Neurogene's stockholders pursuant to the Merger Agreement. Therefore, if before the completion of the merger the market price of Neoleukin's common stock declines from the market price on the date of the Merger Agreement, then Neurogene's stockholders could receive merger consideration with substantially lower value than the value of such merger consideration on the date of the Merger Agreement. Similarly, if before the completion of the merger the market price of Neoleukin's common stock increases from the market price of Neoleukin's common stock on the date of the Merger Agreement, then Neurogene's stockholders could receive merger consideration with substantially greater value than the value of such merger consideration on the date of the Merger Agreement. The Merger Agreement does not include a price-based termination right.

The Merger Agreement contains provisions that limit Neoleukin's ability to pursue alternatives to the merger, could discourage a potential competing acquiror of Neoleukin from making an alternative transaction proposal and, in specified circumstances, could require Neoleukin to pay a termination fee to Neurogene, which could significantly harm Neoleukin's financial condition and the market price of Neoleukin's common stock and negatively affect the future business and operations of each company.

The Merger Agreement contains provisions that make it difficult for Neoleukin to entertain a third-party proposal for an acquisition of Neoleukin. These provisions include Neoleukin's agreement not to solicit or initiate any additional discussions with third parties regarding other proposals for Neoleukin's acquisition, as well as restrictions on Neoleukin's ability to respond to such proposals, subject to fulfillment of certain fiduciary requirements of Neoleukin's board of directors.

If the proposed merger is not completed and the Merger Agreement is terminated under certain circumstances, Neoleukin may be required to pay Neurogene a termination fee of up to $3.04 million, and/or expense reimbursement of up to $1.0 million. Even if a termination fee is not payable in connection with a termination of the Merger Agreement, Neoleukin will have incurred significant fees and expenses, which must be paid whether or not the merger is completed. Further, if the proposed merger is not completed, it could significantly harm the market price of Neoleukin's common stock.

In addition, if the Merger Agreement is terminated and the board of directors of Neoleukin determines to seek another business combination, there can be no assurance that Neoleukin will be able to find a partner or, if such partner is found, to close an alternative transaction on terms that are as favorable or more favorable than the terms set forth in the Merger Agreement.

Lawsuits may be filed against Neoleukin and the members of Neoleukin's board of directors arising out of the proposed merger, which may delay or prevent the proposed merger.

Putative stockholder complaints, including stockholder class action complaints, and other complaints may be filed against Neoleukin, Neoleukin's board of directors, Neurogene, Neurogene's board of directors and others in connection with the transactions contemplated by the Merger Agreement. The outcome of litigation is uncertain, and Neoleukin may not be successful in defending against any such future claims. Lawsuits that may be filed against Neoleukin, Neoleukin's board of directors, Neurogene, or Neurogene's board of directors could

delay or prevent the merger, divert the attention of Neoleukin's management and employees from Neoleukin's day-to-day business and otherwise adversely affect Neoleukin's financial condition.

Neoleukin's stockholders potentially may not receive any payment on the CVRs and the CVRs may otherwise expire valueless.

The Merger Agreement contemplates that, at or prior to the effective time, Neoleukin, the lease representative and the rights agent (as defined in the CVR Agreement (defined below)) will execute and deliver the CVR Agreement, pursuant to which each person who as of immediately prior to the effective time was a stockholder of record of Neoleukin or had the right to receive Neoleukin's common stock pursuant to an existing Neoleukin pre-funded warrant will be entitled to receive a contractual contingent value right ("CVR"), issued by Neoleukin subject to and in accordance with the terms and conditions of the CVR Agreement. Holders of outstanding options to purchase Neoleukin common stock immediately prior to the effective time will also be issued one CVR per share issued upon exercise of such option subject to certain conditions set out in the CVR Agreement. Each CVR will entitle the holder of the CVR to receive certain net proceeds, if any, derived from (a) certain net proceeds, if any, derived from any consideration that is paid as a result of the disposition of Neoleukin's pre-merger legacy assets pursuant to one or more agreements entered into before or within one year after the effective time and realized by June 30, 2029, (b) certain net savings, if any, realized by Neoleukin by June 30, 2029 in connection with the reduction of Neoleukin's legacy lease obligations, and (c) certain net proceeds, if any, derived from Neoleukin's anticipated sales tax refund from Washington State and received by Neoleukin by June 30, 2029. The right of Neoleukin's stockholders to derive any value from the CVRs will be contingent solely upon the reduction in liabilities of certain Neoleukin lease obligations and the disposition of such assets within the time periods specified in the CVR Agreement.

Neoleukin may not be able to achieve successful results from the reduction in liabilities of lease obligations and the disposition of such assets as described above, and may not receive a material amount of money from any sales tax refund that may be issued to Neoleukin. Further, if none of these are achieved for any reason within the time periods specified in the CVR Agreement, no payments will be made under the CVRs, and the CVRs will expire valueless.

Certain of Neoleukin's officers and directors may have interests in the proposed merger that are different from, or in conflict with or in addition to, those of Neoleukin's stockholders generally.

Certain officers and directors of Neoleukin may have interests in the proposed merger that are different from the interests of Neoleukin's stockholders generally, including potentially, among others, the continued service as a director of the combined company, the acceleration of stock option or restricted stock unit ("RSU") vesting, and continued indemnification.

The closing of the merger will also result in the acceleration of vesting of certain options to purchase shares of Neoleukin's common stock and RSUs held by Neoleukin's executive officers and directors, whether or not there is a covered termination of such officer's employment or board membership. In addition, two of Neoleukin's current directors are expected to become directors of the surviving company upon the closing of the merger, and all of Neoleukin's directors and executive officers are entitled to certain indemnification and liability insurance coverage pursuant to the terms of the Merger Agreement. These interests, among others, may influence the officers and directors of Neoleukin and cause them to view the merger differently from how Neoleukin's stockholders generally may view it.

For more information regarding the interests of Neoleukin and Neurogene directors and executive officers in the merger, please see the sections entitled "*The Merger—Interests of Neoleukin's Directors and Executive Officers in the Merger*" beginning on page 131 and "*The Merger—Interests of Neurogene's Directors and Executive Officers in the Merger*" beginning on page 138 of this proxy statement/prospectus, as well as "*Risk Factors—Risks Related to the Merger—Some Neoleukin and Neurogene directors and executive officers have*

interests in the merger that are different from yours and that may influence them to support or approve the merger without regard to your interests."

Neoleukin's equityholders will have a reduced ownership and voting interest in, and will exercise less influence over the management of the combined company, Neoleukin following the closing of the merger as compared to their current ownership and voting interest in Neoleukin.

After the completion of the merger, the current securityholders of Neoleukin will own a smaller percentage of the combined company than their ownership in Neoleukin prior to the merger. Immediately after the merger, it is currently estimated that pre-merger Neoleukin's equityholders will own approximately 16% of the common stock of the combined company, and pre-merger Neurogene equityholders will own approximately 84% of the common stock of the combined company, in each case, calculated using the TSM and after giving effect to the Neurogene pre-closing financing and subject to certain assumptions. These estimates are based on the anticipated exchange ratio and are subject to adjustment as provided in the Merger Agreement.

In addition, the board of directors of the combined company, which is expected to have a total of seven directors immediately following the closing of the merger, will initially include two individuals with prior affiliations with Neoleukin. Consequently, securityholders of Neoleukin will not be able to exercise the same influence over the management and policies of the combined organization following the closing of the merger than they currently exercise over the management and policies of Neoleukin.

Neoleukin's stockholders may not realize a benefit from the merger commensurate with the ownership dilution they will experience in connection with the merger.

If the combined company is unable to realize the strategic and financial benefits currently anticipated from the proposed merger, Neoleukin's stockholders will have experienced substantial dilution of their ownership interests in Neoleukin without receiving the expected commensurate benefit, or only receive part of the commensurate benefit to the extent the combined company is able to realize only part of the expected strategic and financial benefits currently anticipated from the proposed merger.

If Neoleukin does not successfully consummate the merger or another strategic transaction, Neoleukin's board of directors may decide to pursue a dissolution and liquidation of Neoleukin. In such an event, the amount of cash available for distribution to Neoleukin's stockholders will depend heavily on the costs and timing of such liquidation as well as the amount of cash that will need to be reserved for commitments and contingent liabilities, as to which Neoleukin can give you no assurance.

There can be no assurance that the merger will be completed. If the merger is not completed, Neoleukin's board of directors may decide to pursue a dissolution and liquidation of Neoleukin. In such an event, the amount of cash available for distribution to Neoleukin's stockholders will depend heavily on the costs related to and timing of such decision and, ultimately, such liquidation, since the amount of cash available for distribution continues to decrease as Neoleukin funds its operations while pursuing the merger. In addition, if Neoleukin's board of directors were to approve and recommend, and Neoleukin's stockholders were to approve, a dissolution and liquidation of Neoleukin, Neoleukin would be required under Delaware corporate law to pay Neoleukin's outstanding obligations, as well as to make reasonable provision for contingent and unknown obligations, prior to making any distributions in liquidation to stockholders. Neoleukin's commitments and contingent liabilities may include obligations under Neoleukin's employment and related agreements with certain employees that provide for severance and other payments following a termination of employment occurring for various reasons, including a change in control of Neoleukin, which may include a dissolution of Neoleukin, litigation against Neoleukin, and other various claims and legal actions arising in the ordinary course of business, and other unexpected and/or contingent liabilities. As a result of this requirement, a portion of Neoleukin's assets would need to be reserved pending the resolution of such obligations.

In addition, Neoleukin may be subject to litigation or other claims related to a dissolution and liquidation of Neoleukin. If a dissolution and liquidation were to be pursued, Neoleukin's board of directors, in consultation with Neoleukin's advisors, would need to evaluate these matters and make a determination about a reasonable amount to reserve. Accordingly, holders of Neoleukin's common stock could lose all or a significant portion of their investment in the event of liquidation, dissolution or winding up of Neoleukin. A liquidation would be a lengthy and uncertain process with no assurance of any value ever being returned to Neoleukin's stockholders.

Neoleukin is substantially dependent on Neoleukin's remaining employees to facilitate the consummation of the merger.

Neoleukin's ability to consummate a strategic transaction depends upon its ability to retain its employees required to consummate such a transaction, the loss of whose services may adversely impact the ability to consummate such transaction. In November 2022, and then again in March 2023, Neoleukin undertook an organizational restructuring that significantly reduced its workforce in order to conserve its capital resources. As of August 1, 2023, Neoleukin had only 7 full-time employees. Neoleukin's ability to successfully complete the merger depends in large part on Neoleukin's ability to retain certain remaining personnel. Despite Neoleukin's efforts to retain these employees, one or more may terminate their employment with Neoleukin on short notice. Neoleukin's cash conservation activities may yield other unintended consequences, such as attrition beyond its planned reduction in workforce and reduced employee morale, which may cause remaining employees to seek alternative employment. The loss of the services of certain employees could potentially harm Neoleukin's ability to consummate the merger, to run Neoleukin's day-to-day business operations, as well as to fulfill Neoleukin's reporting obligations as a public company.

Risks Related to Neurogene

Risks Related to Neurogene's Limited Operating History, Financial Position and Capital Requirements

Neurogene has a limited operating history, has not completed any clinical trials, and has no products approved for commercial sale, which may make it difficult for you to evaluate its current business and likelihood of success and viability.

Neurogene is a clinical-stage biotechnology company with limited operating history. Since its inception in 2018, Neurogene has incurred significant operating losses and has utilized substantially all of its resources to conduct research and development activities (including with respect to its NGN-401 and NGN-101 programs), preclinical studies and clinical trials of Neurogene's most advanced product candidates, establish in-house manufacturing capabilities, including analytical and process development operations to support ongoing manufacturing operations, manufacture product candidates, conduct business planning, develop and maintain its intellectual property portfolio, hire personnel, raise capital, and provide general and administrative support for these activities. Neurogene has little experience as a company in initiating, conducting or completing clinical trials. In part because of this lack of experience, Neurogene cannot be certain that its current and planned clinical trials will begin or be completed on time, if at all. In addition, while Neurogene is advancing a Phase 1/2 clinical trial of NGN-401 and is evaluating NGN-101 in an ongoing Phase 1/2 clinical trial, Neurogene has not yet demonstrated its ability to successfully complete clinical trials (including Phase 3 or other pivotal clinical trials), obtain regulatory or marketing approvals, manufacture a commercial-scale product or arrange for a third party to do so on its behalf, or conduct sales, marketing and distribution activities necessary for successful product commercialization. Additionally, Neurogene expects its financial condition and operating results to continue to fluctuate significantly from period to period due to a variety of factors, many of which are beyond its control. Consequently, any predictions made about Neurogene's future success or viability may not be as accurate as they could be if Neurogene had a longer operating history.

In addition, as its business grows, Neurogene may encounter unforeseen expenses, restrictions, difficulties, complications, delays and other known and unknown factors. Neurogene will need to transition at some point from a company with an early research and development focus to a company capable of supporting larger pivotal

clinical trials and eventually commercial activities, including the manufacture of commercial scale product. Neurogene may not be successful in such a transition.

Even if the merger and pre-closing financing are successful, Neurogene will require substantial additional capital to finance its operations in the future. If Neurogene is unable to raise such capital when needed, or on acceptable terms, Neurogene may be forced to delay, reduce or eliminate clinical trials, product development programs or future commercialization efforts.

Developing biotechnology products is a long, time-consuming, expensive and uncertain process that takes years to complete. Since its inception, Neurogene has funded its operations primarily through private financings and has incurred significant recurring losses, including net losses of $55.2 million and $50.5 million for the years ended December 31, 2022 and 2021, respectively. Neurogene expects its expenses to increase in connection with its ongoing activities, particularly as Neurogene advances its Phase 1/2 clinical trial of NGN-401, conducts its ongoing Phase 1/2 clinical trial of NGN-101 and initiates additional clinical trials, and continues to research, develop and conduct preclinical studies of its other potential product candidates. In addition, if Neurogene obtains regulatory approval for any product candidate for commercial sale, including NGN-401 and NGN-101, Neurogene anticipates incurring significant commercialization expenses related to product manufacturing, marketing, sales and distribution activities to launch any such product. Neurogene's expenses could increase beyond expectations if Neurogene is required by the FDA or other regulatory agencies to perform preclinical studies or clinical trials in addition to those that Neurogene currently anticipates. Because the design and outcome of its current, planned and anticipated clinical trials are highly uncertain, Neurogene cannot reasonably estimate the actual amount of funding that will be necessary to successfully complete the development and commercialization of any product candidate Neurogene develops. Neurogene's future capital requirements depend on many factors, including factors that are not within its control.

Following the merger and pre-closing financing, Neurogene will also incur additional costs associated with operating as a public company. Accordingly, Neurogene will require substantial additional funding to continue its operations. Based on its current operating plan, and assuming the merger and pre-closing financing are successfully completed, Neurogene believes that its existing cash, cash equivalents and short-term investments should be sufficient to fund its operations into the second half of 2026. This estimate is based on assumptions that may prove to be materially wrong, and Neurogene could deplete its available capital resources sooner than it currently expects. Neurogene's future capital requirements will depend on many factors, including:

- the timing and progress of preclinical and clinical development activities;
- the number and scope of preclinical and clinical programs Neurogene pursues to develop its gene therapy candidate pipeline and its EXACT platform;
- its ability to secure appropriate animal models for the conduct of investigational new drug ("IND")-enabling studies in a timely and financially feasible manner, especially large animal models, such as non-human primates ("NHPs") needed for toxicology studies;
- its ability to establish an acceptable safety profile with IND-enabling toxicology studies to enable clinical trials;
- successful patient enrollment in, and the initiation and completion of, larger and later-stage clinical trials;
- the number of subjects that participate in clinical trials and per subject trial costs;
- the number and extent of trials required for regulatory approval;
- the countries in which the trials are conducted;
- the length of time required to enroll eligible subjects in clinical trials;
- the drop-out and discontinuation rate of subjects;

- potential additional safety monitoring requested by regulatory agencies;
- the duration of subject participation in the trials and follow-up;
- the extent to which Neurogene encounters any serious adverse events in its clinical trials;
- the timing of receipt of regulatory approvals from applicable regulatory authorities, including those required to initiate clinical trials;
- the timing, receipt and terms of any marketing approvals and post-marketing approval commitments from applicable regulatory authorities;
- the extent to which Neurogene establishes collaborations, strategic partnerships, or other strategic arrangements with third parties, if any, and the performance of any such third party;
- the scale up of its clinical and regulatory capabilities, including establishing its current good manufacturing practices ("cGMP") manufacturing capabilities to support expansion of its pipeline and future registration-enabling clinical trials, and obtaining cGMP material for clinical trials or potential commercial sales;
- hiring and retaining research, clinical, regulatory, manufacturing (including quality control and quality assurance) and administrative personnel;
- its arrangements with third-party contract development and manufacturing organizations ("CDMOs") and contract research organizations ("CROs");
- the build-out and validation of its cGMP manufacturing facility, including expansion to commercial-scale;
- the impact of any business interruptions to its operations or to those of the third parties with whom Neurogene works; and
- obtaining, maintaining, defending and enforcing patent claims and other intellectual property rights.

Neurogene does not have any committed external sources of funds and adequate additional financing may not be available to it on acceptable terms, or at all. Neurogene may be required to seek additional funds sooner than planned through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources. Such financing may dilute its stockholders or the failure to obtain such financing may restrict its operating activities. Any additional fundraising efforts may divert Neurogene's management from their day-to-day activities, which may adversely affect its business. To the extent that Neurogene raises additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences and anti-dilution protections that adversely affect your rights as a stockholder. Debt financing may result in imposition of debt covenants, increased fixed payment obligations or other restrictions that may affect Neurogene's business. If Neurogene raises additional funds through upfront payments or milestone payments pursuant to future collaborations with third parties, Neurogene may have to relinquish valuable rights to product development programs, or grant licenses on terms that are not favorable to it. Neurogene's ability to raise additional capital may be adversely impacted by global macroeconomic conditions and volatility in the credit and financial markets in the United States and worldwide, over which Neurogene may have no or little control. Its failure to raise capital as and when needed or on acceptable terms would have a negative impact on its financial condition and its ability to pursue its business strategy, and Neurogene may have to delay, reduce the scope of, suspend or eliminate clinical trials, product development programs or future commercialization efforts.

Neurogene has incurred significant losses since inception, and expects to incur significant losses for the foreseeable future and may not be able to achieve or sustain profitability in the future. Neurogene has no products for sale, has not generated any product revenue and may never generate product revenue or become profitable.

Investment in biotechnology product development is a highly speculative undertaking and entails substantial upfront expenditures and significant risks that any program will fail to demonstrate adequate efficacy or potency or an acceptable safety profile, gain regulatory approval and become commercially viable. Neurogene has no products approved for commercial sale, has not generated any revenue from product sales to date, and continues to incur significant research and development and other expenses related to its ongoing operations. Neurogene does not expect to generate product revenue unless or until Neurogene successfully completes clinical development and obtains regulatory approval of, and then successfully commercializes, at least one product candidate. Neurogene may never succeed in these activities and, even if it does, may never generate product revenue or revenues that are significant or large enough to achieve profitability. If Neurogene is unable to generate sufficient revenue through the sale of any approved products, it may be unable to continue operations without additional funding.

Neurogene has incurred significant net losses in each period since it commenced operations in 2018. Neurogene's net loss was $55.2 million for the year ended December 31, 2022. Neurogene expects to continue to incur significant losses for the foreseeable future. Its operating expenses and net losses may fluctuate significantly from quarter to quarter and year to year. Neurogene anticipates that its expenses will increase substantially if and as it:

- advances its existing and future programs through preclinical and clinical development, including expansion into additional indications;
- seeks to identify additional programs and additional product candidates;
- continues to develop its gene therapy product candidate pipeline and its EXACT platform;
- maintains, expands, enforces, defends and protects its intellectual property portfolio;
- seeks regulatory and marketing approvals for product candidates;
- seeks to identify, establish and maintain additional collaborations and license agreements, including those which may enhance the biodistribution and delivery of its product candidates;
- ultimately establishes a sales, marketing and distribution infrastructure to commercialize any biological products for which Neurogene may obtain marketing approval, either by itself or in collaboration with others;
- generates revenue from commercial sales of products for which Neurogene receives marketing approval;
- hires additional personnel including research and development, clinical and commercial;
- adds operational, financial and management information systems and personnel to support further expansion and to operate as a public company;
- acquires or in-licenses products, intellectual property and technologies which may enhance Neurogene's current technology; and
- establishes commercial-scale cGMP capabilities through its own or third-party manufacturing facilities.

In addition, Neurogene's expenses will increase if, among other things, it is required by the FDA or other regulatory authorities to perform trials or studies in addition to, or different than, those that Neurogene currently anticipates, there are any delays in completing its clinical trials or the development of any product candidates, or there are any third-party challenges to its intellectual property or Neurogene needs to defend against any intellectual property-related claim.

Even if Neurogene obtains marketing approval for, and is successful in commercializing, one or more product candidates, Neurogene expects to incur substantial additional research and development and other expenditures to develop and market additional programs and/or to expand the approved indications of any marketed product. Neurogene may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect its business. The size of its future net losses will depend, in part, on the rate of future growth of its expenses and its ability to generate revenue.

Neurogene's failure to become profitable would decrease the value of Neurogene and could impair its ability to raise capital, maintain its research and development efforts, expand its business and/or continue its operations. A decline in the value of Neurogene could also cause you to lose all or part of your investment.

In addition, management have evaluated adverse conditions and events that raise substantial doubt about Neurogene's ability to continue as a going concern, and, as a result, its independent registered public accounting firm included an explanatory paragraph in its report on its financial statements as of and for the year ended December 31, 2022 included elsewhere herein with respect to this uncertainty. This going concern opinion could materially limit Neurogene's ability to raise additional funds through the issuance of new debt or equity securities or otherwise. Future reports on its financial statements may include an explanatory paragraph with respect to its ability to continue as a going concern. Even if the merger and pre-closing financing are successfully completed, there is no assurance that adequate additional financing needed to allow Neurogene to continue as a going concern will be available to Neurogene on acceptable terms, or at all. The perception that Neurogene may not be able to continue as a going concern may cause others to choose not to do business with Neurogene due to concerns about its ability to meet its contractual obligations.

Risks Related to Discovery, Development and Commercialization

Neurogene faces competition from entities that have developed or may develop programs for the diseases it plans to address with NGN-401 and NGN-101 or other product candidates.

The development and commercialization of biological products is highly competitive. If approved, NGN-401 and NGN-101 or other product candidates will face significant competition and Neurogene's failure to effectively compete may prevent it from achieving significant market penetration. Neurogene competes with a variety of multinational biopharmaceutical companies, specialized biotechnology companies and emerging biotechnology companies, as well as academic institutions, governmental agencies, and public and private research institutions, among others. Many of the companies with which Neurogene is currently competing or will compete against in the future have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals, and marketing approved products than Neurogene does. Mergers and acquisitions in the pharmaceutical and biotechnology industry may result in even more resources being concentrated among a smaller number of its competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with Neurogene in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites, patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, NGN-401 and NGN-101 or other product candidates.

As described in the section entitled "*Neurogene's Business—Competition*", Neurogene's competitors have developed, are developing or may develop programs or clinical stage products competitive with NGN-401 or NGN-101 or other earlier stage product candidates. Competitive therapeutic treatments include those that have already been approved and accepted by the medical community and any new treatments for Rett syndrome or for CLN5 Batten disease. Neurogene's success will depend partially on its ability to develop and commercialize products that have a competitive safety, efficacy or potency, dosing and/or presentation profile. Neurogene's commercial opportunity and success will be reduced or eliminated if competing products are safer, more effective or potent, have a more attractive or less invasive dosing profile or presentation or are less expensive

than any products Neurogene may develop, if any, or if competitors develop competing products or if biosimilars enter the market more quickly than Neurogene is able to, if at all, and are able to gain market acceptance.

NGN-401, NGN-101 and Neurogene's other programs are in early stages of development and may fail in development or suffer delays that materially and adversely affect their commercial viability. If Neurogene or its current or future collaborators are unable to complete development of, or commercialize, Neurogene's product candidates, or experience significant delays in doing so, its business will be materially harmed.

Neurogene has no products on the market and NGN-401 and NGN-101 are in the early stages of clinical development, while Neurogene's other programs are in early stages of preclinical development. As a result, Neurogene expects it will be many years before it commercializes these product candidates and ultimately may not be successful in commercializing any of its product candidates. Neurogene's ability to achieve and sustain profitability depends on obtaining regulatory approvals for, and successfully commercializing, its lead product candidate NGN-401 or other product candidates, including NGN-101, either alone or with third parties, and Neurogene cannot guarantee that it will ever obtain regulatory approval for any product candidates. Neurogene has limited experience as a company in conducting and managing the clinical trials necessary to obtain regulatory approvals, including approval by the FDA or comparable foreign regulatory authorities. Neurogene has also not yet demonstrated its ability to obtain regulatory approvals, manufacture a commercial scale product or arrange for a third party to do so on its behalf, or conduct sales and marketing activities necessary for successful product commercialization. Before obtaining regulatory approval for the commercial distribution of product candidates, Neurogene or an existing or future collaborator must conduct extensive preclinical tests and clinical trials to demonstrate the safety, purity and efficacy or potency in humans of such product candidates.

Neurogene or its collaborators may experience delays in initiating or completing clinical trials, and also may experience unforeseen events during, or as a result of, any current or future clinical trials that could delay or prevent its ability to receive marketing approval or commercialize NGN-401 or NGN-101 or any other product candidates, including:

- regulators or institutional review boards ("IRBs"), the FDA or ethics committees may not authorize Neurogene or its investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- Neurogene may experience delays in reaching, or may fail to reach, agreement on acceptable terms with prospective trial sites and prospective CROs, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- the observation of an actual or suspected unexpected serious adverse reaction, serious adverse events, or adverse events of special interest could result in a partial or complete clinical hold for an unpredictable length of time, delay or halt future enrollment, require increased staggering between patient dosing, require dose reductions that could adversely affect the anticipated efficacy or potency product profile, or require a program discontinuation;
- clinical trial sites may fail to meet enrollment targets, may deviate from trial protocol, or may experience patients dropping out of a trial;
- clinical trials of any product candidates may fail to show safety or efficacy or potency, produce negative or inconclusive results and Neurogene may decide, or regulators may require Neurogene, to conduct additional preclinical studies or clinical trials or Neurogene may decide to abandon product development programs;
- the number of subjects required for clinical trials of any Neurogene's product candidates may be larger than it anticipates, especially if the effect size observed in future clinical data from a Phase 1/2 clinical trial is small or is difficult to ascertain relative to natural history as a comparator, or if regulatory authorities require completion of a sham-controlled clinical trial;

- enrollment in clinical trials may be slower than Neurogene anticipates or subjects may drop out of clinical trials or fail to return for post-treatment follow-up at a higher rate than Neurogene anticipates;
- Neurogene's third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to Neurogene in a timely manner, or at all, or may deviate from the clinical trial protocol or drop out of the trial, which may require that Neurogene add new clinical trial sites or investigators;
- Neurogene may elect to, or regulators, independent data safety monitoring boards ("DSMBs"), IRBs or ethics committees may require that Neurogene or its investigators suspend or terminate clinical research or trials, or delay further dosing of subjects in clinical trials, for various reasons, including noncompliance with regulatory requirements or a finding that the participants in its trials are being exposed to unacceptable health risks;
- the cost of clinical trials of any of Neurogene's product candidates may be greater than it anticipates;
- the quality of Neurogene's product candidates or other materials necessary to conduct clinical trials of its product candidates may be inadequate to initiate or complete a given clinical trial;
- Neurogene's inability to manufacture sufficient quantities of its product candidates for use in clinical trials;
- reports from clinical testing of other therapies may raise safety or efficacy or potency concerns about its product candidates;
- Neurogene's failure to establish an appropriate safety profile for a product candidate based on clinical or preclinical data for such product candidate as well as data emerging from other therapies in the same class as its product candidates; and
- the FDA or other regulatory authorities may require Neurogene to submit additional data such as long-term toxicology studies, or impose other requirements before permitting Neurogene to initiate a clinical trial.

Commencing clinical trials in the United States is subject to acceptance by the FDA of an IND or, if commenced in other jurisdictions, acceptance by the comparable foreign regulatory agency of a similar application, as well as finalizing the trial design. In the event that the FDA or applicable foreign regulatory agency requires Neurogene to complete additional preclinical studies, or Neurogene is required to satisfy other regulatory requests prior to commencing clinical trials, the start of its clinical trials may be delayed. Even after Neurogene receives and incorporates guidance from these regulatory authorities, the FDA or other regulatory authorities could disagree that Neurogene has satisfied their requirements to commence any clinical trial or change their position on the acceptability of its trial design or the clinical endpoints selected, which may require Neurogene to complete additional preclinical studies or clinical trials, delay the enrollment of its clinical trials or impose stricter approval conditions than Neurogene currently expects. There are equivalent processes and risks applicable to clinical trial applications in other jurisdictions, including the United Kingdom ("UK"), Australia and the European Union.

Neurogene may not have the financial resources to continue development of, or to modify existing collaborations or enter into new collaborations for, a product candidate if Neurogene experiences any issues that delay or prevent regulatory approval of, or its ability to commercialize, NGN-401 or NGN-101 or any other product candidates. Neurogene or its current or future collaborators' inability to complete development of, or commercialize, NGN-401 or NGN-101 or any other product candidates or significant delays in doing so, could have a material and adverse effect on its business, financial condition, results of operations and prospects.

Neurogene currently utilizes adeno-associated virus serotype 9 ("AAV9") capsid for delivery of therapeutic transgenes to deliver its product candidates, which may limit the safety, purity, and efficacy or potency of such product candidates.

Neurogene's current approach is to identify, develop and commercialize gene therapy product candidates using an AAV9 capsid for delivery of therapeutic transgenes to certain kinds of cells.

Although AAV9 has been tested in numerous clinical trials and is an approved serotype for one gene therapy product, Neurogene cannot be certain that its AAV9 product candidates will successfully advance through preclinical studies and clinical trials, or that they will not cause significant adverse events or toxicities. Neurogene also cannot be certain that it will be able to avoid triggering toxicities in its future preclinical studies or clinical trials or that its chosen routes of administration to deliver such therapies will not cause unforeseen side effects or other challenges. Although AAV9 has been shown to facilitate biodistribution and cell transduction to the central nervous system ("CNS"), the potentially limited levels of AAV9 transduction of cells in the CNS and certain retinal cells may limit the potential efficacy or potency of any of Neurogene's product candidates, including NGN-401 and NGN-101.

Neurogene intends to identify and develop novel gene therapy product candidates, which makes it difficult to predict the time, cost and potential success of product candidate development.

A key part of Neurogene's business strategy is to identify and develop additional product candidates. As such, Neurogene's future success depends on the successful development of novel therapeutic approaches, including by utilizing its EXACT technology or other gene regulation technology. Neurogene's preclinical research and clinical trials may initially show promise in identifying potential product candidates, yet fail to yield product candidates for a number of reasons. For example, although EXACT is designed to deliver therapeutic levels of transgene while avoiding off-target effects, there can be no assurance that any EXACT gene regulation will result in product candidates that are shown in clinical trials to be safe, pure and effective or potent.

To date, very few products that utilize gene transfer have been approved in the United States, Europe or other markets, and no products have been approved using Neurogene's Expression Attenuation via Construct Timing ("EXACT") technology. There have been a limited number of clinical trials of gene transfer technologies, with only very few product candidates ever approved by the FDA or comparable foreign regulatory authorities.

As a result, it is difficult for Neurogene to predict the time and cost of product candidate development, and Neurogene cannot predict whether the application of its approach to gene therapy will result in the identification, development, and regulatory approval of any product candidates, or that other gene therapy programs will not be considered better or more attractive. There can be no assurance that any development problems Neurogene experiences in the future related to its current gene therapy approaches or product candidates or any of its research programs will not cause significant delays or unanticipated costs, or that such development problems can be solved. Research programs to identify new product candidates require substantial technical, financial, and human resources. If Neurogene is unable to identify suitable gene therapy product candidates for preclinical and clinical development, Neurogene may not be able to successfully implement its business strategy, and may have to delay, reduce the scope of, suspend or eliminate one or more of its product candidates, clinical trials or future commercialization efforts, which would negatively impact its financial condition.

The disorders Neurogene seeks to treat have low prevalence and it may be difficult to identify and enroll patients with these disorders. If Neurogene experiences delays or difficulties in the enrollment and/or maintenance of patients in clinical trials, its receipt of necessary regulatory approvals could be delayed or prevented.

Successful and timely completion of clinical trials will require that Neurogene enroll and maintain a sufficient number of patients. Patient enrollment is affected by many factors, including the size and nature of the

patient population and competition for patients with other trials. Genetic diseases generally, and especially the rare diseases for which some of Neurogene's current product candidates are targeted, have low incidence and prevalence. For example, Neurogene estimates global incidence of all 13 subtypes of Batten disease is approximately one in 100,000 live births, and the CLN5 Batten disease incidence, which is included in this estimate, is estimated to be even lower. Accordingly, it may be difficult for Neurogene to identify and timely recruit a sufficient number of eligible patients to conduct its clinical trials. Further, any natural history studies that Neurogene or its collaborators may conduct may fail to provide Neurogene with patients for its clinical trials because patients enrolled in the natural history studies may not be good candidates for Neurogene's clinical trials, or may choose to not enroll in Neurogene's clinical trials.

Trials may be subject to delays as a result of patient enrollment taking longer than anticipated or patient withdrawal. Neurogene may not be able to initiate or continue clinical trials for its product candidates if it is unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA, the European Medicines Agency ("EMA") or other foreign regulatory authorities. Neurogene cannot predict how successful it will be at enrolling subjects in future clinical trials. Subject enrollment is affected by other factors including:

- the eligibility criteria for the trial in question;
- the timely diagnosis of disease to meet such eligibility criteria;
- the size of the patient population and process for identifying patients;
- the perceived risks and benefits of the product candidate in the trial, especially by clinician experts and patient advocacy organizations, including relating to AAV9-based gene therapy and intra-cerebral spinal fluid delivery system;
- the availability of competing commercially available therapies and other competing therapeutic candidates' clinical trials;
- the willingness of caregivers to enroll their children in Neurogene's clinical trials;
- the efforts to facilitate timely enrollment in clinical trials;
- potential disruptions caused by pandemics or other public health crises, including difficulties in initiating clinical sites, enrolling and retaining participants, diversion of healthcare resources away from clinical trials, travel or quarantine policies that may be implemented, and other factors;
- the patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment; and
- the proximity and availability of clinical trial sites for prospective patients.

Even if Neurogene is able to enroll a sufficient number of patients in its clinical trials, it may have difficulty maintaining enrollment of such patients. Neurogene's inability to enroll or maintain a sufficient number of patients would result in significant delays in completing clinical trials or receipt of marketing approvals and increased development costs, or may require Neurogene to abandon one or more clinical trials altogether.

Neurogene is substantially dependent on the success of its most advanced product candidates, NGN-401 and NGN-101, and its ongoing and anticipated clinical trials of such candidates may not be successful.

Neurogene's future success is substantially dependent on its ability to timely obtain marketing approval for, and then successfully commercialize, its most advanced product candidates, NGN-401 and NGN-101. Neurogene is investing a majority of its efforts and financial resources into the research and development of these candidates. Neurogene is advancing a Phase 1/2 clinical trial in patients with Rett syndrome for NGN-401 and conducting a Phase 1/2 clinical trial of NGN-101. If topline results from its Phase 1/2 clinical trial of NGN-401

are successful, Neurogene anticipates initiating a pivotal clinical trial, pending future regulatory feedback on various aspects of development such as the pivotal trial design and manufacturing related requirements. If topline results from its Phase 1/2 clinical trial of NGN-101 are successful, Neurogene anticipates initiating a pivotal clinical trial or expanding the current Phase 1/2 clinical trial, pending future regulatory feedback on various aspects of development, such as the Phase 3 clinical trial design and manufacturing related requirements.

NGN-401 and NGN-101 will require additional clinical development, evaluation of clinical, preclinical and manufacturing activities, marketing approval in multiple jurisdictions, substantial investment and significant marketing efforts before Neurogene generates revenues from product sales, if any. Neurogene is not permitted to market or promote these product candidates, or any other product candidates, before it receives marketing approval from the FDA and/or comparable foreign regulatory authorities, and Neurogene may never receive such marketing approvals.

The success of NGN-401 and NGN-101 will depend on a variety of factors. Neurogene does not have complete control over many of these factors, including certain aspects of clinical development and the regulatory submission process, potential threats to its intellectual property rights and the manufacturing, marketing, distribution and sales efforts of any future collaborator. Accordingly, Neurogene cannot guarantee that it will ever be able to generate revenue through the sale of these candidates, even if approved. If Neurogene is not successful in commercializing NGN-401 or NGN-101, or is significantly delayed in doing so, its business will be materially harmed.

Neurogene's programs are focused on the development of therapeutics for patients with neurological diseases, which is a rapidly evolving area of science, and the approach Neurogene is taking to discover and develop product candidates is novel and may never lead to approved or marketable products.

The discovery and development of therapeutics for patients with neurological diseases is an emerging field, and the scientific discoveries that form the basis for Neurogene's efforts to discover and develop product candidates are relatively new. The scientific evidence to support the feasibility of developing product candidates based on these discoveries is both preliminary and limited. Although Neurogene believes, based on its preclinical work, that its programs have the potential to be disease-modifying therapies, clinical results may not confirm this hypothesis or may only confirm it for certain alterations or certain indications. The patient populations for Neurogene's product candidates are limited to those with specific neurological diseases. Neurogene cannot be certain that the patient populations for each specific disease will be large enough to allow Neurogene to successfully obtain approval and commercialize its product candidates and achieve profitability. Further, both Neurogene's planned Phase 1/2 clinical trial of NGN-401 and its ongoing Phase 1/2 clinical trial of NGN-101 will involve a small patient population. Because of the small sample sizes, the results of these trials may not be indicative of results of future clinical trials.

If Neurogene does not achieve its projected development goals in the time frames Neurogene announces and expects, the commercialization of NGN-401 or NGN-101 or any other product candidates may be delayed and, as a result, its stock price may decline.

From time to time, Neurogene estimates the timing of the anticipated accomplishment of various scientific, clinical, regulatory and other product development goals, which Neurogene sometimes refer to as milestones. These milestones may include the commencement or completion of scientific studies and clinical trials and the submission of regulatory filings. From time to time, Neurogene may publicly announce the expected timing of some of these milestones. All of these milestones are and will be based on numerous assumptions. The actual timing of these milestones can vary dramatically compared to its estimates, in some cases for reasons beyond its control. If Neurogene does not meet these milestones as publicly announced, or at all, the commercialization of NGN-401 or NGN-101 or any other product candidates may be delayed or never achieved and, as a result, its stock price may decline.

Preclinical and clinical development involves a lengthy and expensive process that is subject to delays and with uncertain outcomes, and results of earlier studies and trials may not be predictive of future clinical trial results. If Neurogene's preclinical studies and clinical trials are not sufficient to support regulatory approval of any of its product candidates, Neurogene may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development of such product candidate.

Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, Neurogene must complete preclinical studies, which are a lengthy, time consuming and expensive process with risk of high failure. The length of time of such testing may vary substantially according to the type, complexity and novelty of the program, and often can be several years or more per program. Delays associated with programs for which Neurogene is conducting preclinical testing and studies may cause us to incur additional operating expenses. However, after conducting preclinical studies, Neurogene must then conduct extensive clinical trials to demonstrate the safety, purity, and efficacy or potency of its product candidate in humans. Neurogene's clinical trials may not be conducted as planned or completed on schedule, if at all. For example, Neurogene depends on the availability of NHPs to conduct certain preclinical studies that Neurogene is required to complete prior to submitting an IND and initiating clinical development. There is currently a global shortage of NHPs available for biological product development. This could cause the cost of obtaining NHPs for its future preclinical studies to increase significantly and, if the shortage continues, could also result in delays to Neurogene's development timelines.

Furthermore, failure can occur at any time during the preclinical study or clinical trial process, and the outcome of preclinical studies and early-stage clinical trials may not be predictive of the success of later clinical trials, especially as Neurogene's initial clinical trials do not contain a control arm. In addition, Neurogene has designed its initial clinical trials with relatively small cohorts before expanding in size and dosing in subsequent cohorts. If safety issues arise in an early cohort, Neurogene may be delayed or prevented from dose escalating or subsequently expanding into larger trial cohorts.

Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their product candidates. Earlier gene therapy clinical trials conducted by others also utilized AAV vectors. However, these studies should not be relied upon as evidence that Neurogene's planned clinical trials will succeed. In addition, Neurogene expects to rely on patients to provide feedback on measures, which are subjective and inherently difficult to evaluate. These measures can be influenced by factors outside of its control, and can vary widely from day to day for a particular patient, and from patient to patient and from site to site within a clinical trial.

Neurogene cannot be sure that the FDA or comparable foreign regulatory authorities will agree with its clinical development plan. Neurogene is advancing a Phase 1/2 clinical trial in patients with Rett syndrome for NGN-401 and conducting a Phase 1/2 clinical trial of NGN-101 in patients with CLN5 Batten disease. If the FDA or comparable regulatory authorities requires Neurogene to conduct additional trials or enroll additional patients, its development timelines may be delayed. Neurogene cannot be sure that submission of an IND application, clinical trial application ("CTA") or similar application will result in the FDA or comparable foreign regulatory authorities, as applicable, allowing clinical trials to begin in a timely manner, if at all. Moreover, even if these trials begin, issues may arise that could cause regulatory authorities to require Neurogene to suspend or terminate such clinical trials. Events that may prevent successful or timely initiation or completion of clinical trials include: inability to generate sufficient preclinical, toxicology or other *in vivo* or *in vitro* data to support the initiation or continuation of clinical trials; delays in reaching a consensus with regulatory authorities on study design or implementation of the clinical trials; delays or failure in obtaining regulatory authorization to commence a trial; delays in reaching agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites; delays in identifying, recruiting and training suitable clinical investigators; delays in obtaining required IRB approval at each clinical trial site; difficulties in patient enrollment in Neurogene's

clinical trials for a variety of reasons; delays in manufacturing, testing, releasing, validating or importing/exporting sufficient stable quantities of its product candidates for use in clinical trials or the inability to do any of the foregoing; failure by its CROs, other third parties or Neurogene to adhere to clinical trial protocols; failure to perform in accordance with the FDA's or any other regulatory authority's good clinical practices ("GCPs") or applicable regulatory guidelines in other countries; changes to the clinical trial protocols; clinical sites deviating from trial protocol or dropping out of a trial; changes in regulatory requirements and guidance that require amending or submitting new clinical protocols; selection of clinical endpoints that require prolonged periods of observation or analyses of resulting data; transfer of manufacturing processes to larger-scale facilities operated by a CDMO and delays or failure by its CDMOs or Neurogene to make any necessary changes to such manufacturing process; and third parties being unwilling or unable to satisfy their contractual obligations to Neurogene.

Neurogene could also encounter delays if a clinical trial is placed on clinical hold, suspended or terminated by Neurogene, the IRBs of the institutions in which such trials are being conducted, or the FDA, the competent authorities and/or ethics committees of the UK, Australia, EU Member States or other regulatory authorities, if a clinical trial is recommended for suspension or termination by the DSMB or equivalent body for such trial, or on account of changes to federal, state, or local laws. If Neurogene is required to conduct additional clinical trials or other testing of NGN-401 or NGN-101 or any other product candidates beyond those that Neurogene contemplates, if Neurogene is unable to successfully complete clinical trials of NGN-401 or NGN-101 or any other product candidates, if the results of these trials are not positive or are only moderately positive or if there are safety concerns, its business and results of operations may be adversely affected and Neurogene may incur significant additional costs.

In addition, even if Neurogene is able to successfully complete clinical trials for NGN-401 or NGN-101, it cannot guarantee that the FDA or foreign regulatory authorities will interpret the results as Neurogene does, and more trials could be required before Neurogene submits its product candidates for approval. This is particularly true for clinical trials in very rare diseases, such as with Neurogene's Phase 1/2 clinical trial of NGN-101 for the treatment of CLN5 Batten disease and Phase 1/2 clinical trial of NGN-401 for the treatment of Rett syndrome, where the very small patient population makes it difficult to conduct two traditional, adequate and well-controlled studies. In such cases, the FDA or comparable foreign regulatory authorities are often required or permitted to exercise flexibility in approving therapies for such diseases, but obtaining flexibility is uncertain and may never occur. Moreover, results acceptable to support approval in one jurisdiction may be deemed inadequate by another regulatory authority to support regulatory approval in the other jurisdiction. To the extent that the results of the trials are not satisfactory to the FDA or applicable regulatory authorities for support of a marketing application, Neurogene may be required to expend significant resources, which may not be available to it, to conduct additional trials in support of potential approval of its product candidates.

Preliminary, "topline" or interim data from Neurogene's clinical trials that it announces or publishes from time to time may change as more patient data becomes available and are subject to audit and verification procedures.

From time to time, Neurogene may publicly disclose preliminary, interim or topline data from its preclinical studies and clinical trials, which are based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data. Neurogene also makes assumptions, estimations, calculations and conclusions as part of its analyses of these data without the opportunity to fully and carefully evaluate complete data. Preliminary, interim, or topline results also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data previously disclosed. These preliminary, interim or topline data are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available or as patients from its clinical trials continue other treatments. As a result, preliminary, interim and topline data should be viewed with caution until final data are available. Further, others, including regulatory agencies, may not accept or agree with its assumptions, estimates, calculations, conclusions or

analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular product candidate, the approvability or commercialization of a particular product candidate and Neurogene's company in general. In addition, the information Neurogene chooses to publicly disclose regarding a particular preclinical study or clinical trial is based on what is typically extensive information, and you or others may not agree with what Neurogene determines is material or otherwise appropriate information to include in its disclosure. If the preliminary, interim or topline data that Neurogene reports differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, Neurogene's ability to obtain approval for, and commercialize, NGN-401 or NGN-101 or any other product candidate may be harmed, which could harm its business, operating results, prospects or financial condition. In addition, differences between preliminary, interim or topline data and final data could significantly harm Neurogene's business prospects and may cause the trading price of its common stock to fluctuate significantly.

Neurogene's current or future clinical trials may reveal significant adverse events or undesirable side effects not seen in its preclinical studies and may result in a safety profile that could halt clinical development, inhibit regulatory approval or limit commercial potential or market acceptance of any of NGN-401 or NGN-101 or any other product candidates or result in potential product liability claims.

Results of Neurogene's clinical trials could reveal a high and unacceptable severity and prevalence of side effects, adverse events or unexpected characteristics. While its Phase 1/2 clinical trials have not shown any such characteristics to date, Neurogene has not yet completed the clinical trials. If significant adverse events or other side effects are observed in any of its current or future clinical trials, Neurogene may have difficulty recruiting patients to such trials, patients may drop out of its trials, patients may be harmed, or Neurogene may be required to abandon the trials or its development efforts of one or more product candidates altogether, including NGN-401 or NGN-101. Neurogene, the FDA, EMA, or other applicable regulatory authorities, or an IRB, may require suspension of any clinical trials of NGN-401 or NGN-101 or any other product candidates at any time for various reasons, including a finding that subjects or patients in such trials are being exposed to unacceptable health risks or adverse side effects. Some potential products developed in the biotechnology industry that initially showed therapeutic promise in early-stage trials have later been found to cause side effects that prevented their further development. Even if the side effects do not preclude a product candidate from obtaining or maintaining marketing approval, undesirable side effects may inhibit market acceptance of an approved product due to its tolerability versus other therapies. In addition, as gene replacement has a potentially life-long activity, with no ability to withdraw the product as with other treatment modalities, this profile could prolong the duration of undesirable side effects, which could also inhibit market acceptance. Treatment-emergent adverse events could also affect patient recruitment or the ability of enrolled subjects to complete its clinical trials or could result in potential product liability claims. Potential side effects associated with NGN-401 or NGN-101 or any other product candidates may not be appropriately recognized or managed by the treating medical staff, as toxicities resulting from NGN-401 or NGN-101 or any other product candidates may not be normally encountered in the general patient population and by medical personnel. Any of these occurrences could harm Neurogene's business, financial condition, results of operations and prospects significantly.

In addition, even if Neurogene successfully advances NGN-401 or NGN-101 or any other product candidates through clinical trials, such trials will only include a limited number of patients and limited duration of follow up to such product candidates. As a result, Neurogene cannot be assured that adverse effects of NGN-401 or NGN-101 or any other product candidates will not be uncovered when a significantly larger number of patients are exposed to such product candidate after approval, or a significantly longer follow up post-dosing is obtained as part of regulators' recommendations for long-term follow up of clinical study subjects treated with gene therapy. Further, any clinical trials may not be sufficient to determine the effect and safety consequences of using Neurogene's product candidates over a multi-year period.

Neurogene has expended substantial efforts and costs testing its EXACT technology in preclinical studies of NGN-401, including completing toxicology studies prior to the FDA providing clearance of the IND for NGN-401. Neurogene, however, cannot guarantee that significant adverse effects will not be seen in clinical

trials for NGN-401, which could result in clinical holds, delays, suspension or withdrawal of Neurogene's IND. If any of the foregoing events occur or if NGN-401 or NGN-101 or any other product candidates prove to be unsafe, Neurogene's entire pipeline could be affected, which would have a material adverse effect on its business, financial condition, results of operations and prospects.

Neurogene may expend its limited resources to pursue a particular product candidate, such as NGN-401 or NGN-101, and fail to capitalize on candidates that may be more profitable or for which there is a greater likelihood of success.

Because Neurogene has limited financial and managerial resources, Neurogene intends to focus its research and development efforts on certain selected product candidates. For example, Neurogene is initially allocating significant resources to its most advanced product candidates, NGN-401 and NGN-101. As a result, Neurogene may forgo or delay pursuit of opportunities with other potential candidates that may later prove to have greater commercial potential. Neurogene's resource allocation decisions may cause Neurogene to fail to capitalize on viable commercial products or profitable market opportunities. Neurogene's spending on current and future research and development programs for specific indications may not yield any commercially viable product candidates. If Neurogene does not accurately evaluate the commercial potential or target market for a particular product candidate, it may relinquish valuable rights to that candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for Neurogene to retain sole development and commercialization rights to such candidate.

Even if regulatory approval is obtained, any approved products resulting from NGN-401 or NGN-101 or any other product candidate may not achieve adequate market acceptance among clinicians, patients, healthcare third-party payors and others in the medical community necessary for commercial success and Neurogene may not generate any future revenue from the sale or licensing of such products.

Even if regulatory approval is obtained for NGN-401 or NGN-101 or any other product candidates, Neurogene's product candidates may not gain market acceptance among physicians, patients, healthcare payors or the medical community. Neurogene may not generate or sustain revenue from sales of the product due to factors such as whether the product can be sold at a competitive cost and whether it will otherwise be accepted in the market. There is currently one FDA-approved product and multiple other product candidates in various stages of development for the treatment of Rett syndrome. Market participants with significant influence over acceptance of new treatments, such as clinicians and third-party payors, may not adopt a gene therapy replacement with a target product profile such as that of NGN-401 or NGN-101 or for their targeted indications, and Neurogene may not be able to convince the medical community and third-party payors to accept and use, or to provide favorable reimbursement for, any product candidates developed by Neurogene or its existing or future collaborators. Market acceptance of NGN-401 or NGN-101 or any other product candidates will depend on many factors, including factors that are not within Neurogene's control.

Sales of biological products also depend on the willingness of clinicians to prescribe the treatment. Neurogene cannot predict whether clinicians, clinicians' organizations, hospitals, other healthcare providers, government agencies or private insurers will determine that any of its approved products are safe, therapeutically effective or potent, cost effective or less burdensome as compared with competing treatments. If NGN-401 or NGN-101 or any other product candidate is approved but does not achieve an adequate level of acceptance by such parties, Neurogene may not generate or derive sufficient revenue from that product and may not become or remain profitable.

Neurogene has never commercialized a product candidate and may lack the necessary expertise, personnel and resources to successfully commercialize a product candidate on its own or together with suitable collaborators.

Neurogene has never commercialized a product candidate, and it currently has no sales force, marketing or distribution capabilities. To achieve commercial success for a product candidate, which Neurogene may license

to others, Neurogene may rely on the assistance and guidance of those collaborators. For a product candidate for which Neurogene retains commercialization rights and marketing approval, Neurogene will have to develop its own sales, marketing and supply organization or outsource these activities to a third party. Factors that may affect its ability to commercialize a product candidate, if approved, on its own include recruiting and retaining adequate numbers of effective sales and marketing personnel, developing adequate educational and marketing programs to increase public acceptance of its approved product candidate, ensuring regulatory compliance of Neurogene's company, employees and third parties under applicable healthcare laws and other unforeseen costs associated with creating an independent sales and marketing organization. Developing a sales and marketing organization will be expensive and time-consuming and could delay the launch of a product candidate upon approval. Neurogene may not be able to build an effective sales and marketing organization. If Neurogene is unable to build its own distribution and marketing capabilities or to find suitable partners for the commercialization of an approved product candidate, Neurogene may not generate revenues from them or be able to reach or sustain profitability.

Neurogene has never completed any late-stage clinical trials and it may not be able to file an IND application or other applications for regulatory approval to commence additional clinical trials on the timelines it expects. Even if Neurogene is able to complete such trials, the FDA or comparable foreign regulatory authorities may not permit Neurogene to proceed or could suspend or terminate any such trial after it has been initiated.

Neurogene is early in its development efforts and will need to successfully complete later-stage and pivotal clinical trials in order to obtain FDA or comparable foreign regulatory approval to market its product candidates. Carrying out clinical trials and the submission of a successful IND or CTA is a complicated process. Neurogene has not yet completed a Phase 1/2 clinical trial and has limited experience as a company in preparing, submitting and prosecuting regulatory filings. If topline results from its Phase 1/2 clinical trial of NGN-401 are successful, Neurogene intends to engage with the FDA and other comparable foreign regulators to determine the requirements to support initiation of a Phase 3 clinical trial. If topline results from its Phase 1/2 clinical trial of NGN-101 are successful, Neurogene intends to engage with the FDA and other comparable foreign regulators to determine if there is a streamlined pathway to approval for NGN-101 for the treatment of CLN5 Batten disease. However, regulatory authorities may recommend changes to the study designs for NGN-401 or NGN-101, including the number and size of registrational clinical trials required to be conducted in such programs. In addition, regulatory authorities could require manufacturing changes or have Neurogene implement additional analytical processes prior to initiation of a future clinical trial. Consequently, Neurogene may be unable to successfully and efficiently execute and complete necessary clinical trials in a way that leads to regulatory submission and approval of its product candidates. Additionally, even if regulatory authorities agree with the design and implementation of the clinical trials set forth in a regulatory meeting, such regulatory authorities may change their requirements in the future. The FDA or comparable foreign regulatory authorities may require the analysis of data from trials assessing different doses of the product candidate alone or in combination with other therapies to justify the selected dose prior to the initiation of large trials in a specific indication. Any delays or failure to initiate clinical trials, or obtain regulatory approvals for its trials may prevent Neurogene from completing its clinical trials or commercializing its products on a timely basis, if at all. Neurogene is subject to similar risks related to the review and authorization of its protocols and amendments by comparable foreign regulatory authorities.

For its preclinical pipeline, if the IND-enabling studies support a decision to advance into clinical development, Neurogene would plan to submit an IND or CTA with a foreign regulatory authority. Neurogene may not be able to file the IND or CTA in accordance with its desired timelines for future product candidates. For example, Neurogene may experience manufacturing delays or other delays with IND-enabling studies, including with suppliers, study sites, or third-party contractors and vendors on which Neurogene depends. Moreover, Neurogene cannot be sure that submission of an IND application will result in the FDA or comparable foreign regulatory authorities allowing further clinical trials to begin, or that, once begun, issues will not arise that lead Neurogene to suspend or terminate such clinical trials.

Risks Related to Manufacturing

Gene therapies are novel, complex and difficult to manufacture. Neurogene could experience manufacturing problems that result in delays in the development or commercialization of its product candidates or otherwise harm its business.

The manufacture of gene therapy products is technically complex and necessitates substantial expertise and capital investment. Production difficulties caused by unforeseen events may delay the availability of material for Neurogene's clinical studies. While Neurogene is currently establishing its own manufacturing facility to provide clinical and commercial supply of its product candidates, Neurogene expects to rely on contract manufacturers for certain portions of its manufacturing needs for the foreseeable future, such as those related to research grade material for its early preclinical studies. Neurogene has also relied on a third-party contract manufacturer to manufacture clinical supply for its Phase 1/2 clinical trial of NGN-101.

The manufacturers of biological and pharmaceutical products must comply with strictly enforced cGMP requirements, state and federal regulations, as well as foreign requirements when applicable. Any failure of Neurogene or its CDMOs to adhere to or document compliance to such regulatory requirements could lead to a delay or interruption in the availability of Neurogene's program materials for clinical trials or enforcement action from the FDA, EMA or other foreign regulatory authorities. If Neurogene or its manufacturers were to fail to comply with the FDA, EMA or other regulatory authority, it could result in sanctions being imposed on Neurogene, including clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of Neurogene's product candidates. Neurogene's potential future dependence upon others for the manufacture of its product candidates may also adversely affect Neurogene's future profit margins and its ability to commercialize any product candidates that receive regulatory approval on a timely and competitive basis.

Biological products are inherently difficult to manufacture. Although Neurogene believes that the manufacture of its product candidates may be simplified due to their shared raw materials and other similarities, Neurogene cannot be certain that this will be the case and it may be required to develop manufacturing methods that ultimately differ significantly between product candidates, which would require that Neurogene invest substantial time and capital to develop suitable manufacturing methods. Neurogene's program materials are manufactured using technically complex processes requiring specialized equipment and facilities, highly specific raw materials, cells, and reagents, and other production constraints. Neurogene's production process requires a number of highly specific raw materials, cells and reagents with limited suppliers. Even though Neurogene aims to have backup supplies of raw materials, cells and reagents whenever possible, Neurogene cannot be certain they will be sufficient if Neurogene's primary sources are unavailable. A shortage of a critical raw material, cell line, or reagent, or a technical issue during manufacturing may lead to delays in clinical development or commercialization plans. Neurogene is particularly susceptible to any shortages, delays or its inability to obtain suitable raw materials, given that all of Neurogene's current and planned product candidates require this starting material. Any changes in the manufacturing of components of the raw materials Neurogene uses could result in unanticipated or unfavorable effects in Neurogene's manufacturing processes, resulting in delays.

Once the biological products are manufactured, the product must be analyzed utilizing assays and meet pre-determined specifications in order to be used in certain preclinical studies, in any clinical trial, and if approval is obtained, for commercial distribution. This testing is performed in-house and at third-party contract manufacturers. Delays or other unexpected obstacles in performing the tests and obtaining the results in-house or at a third-party contractor could result in unanticipated impact to Neurogene's ability to supply material as needed for pre-clinical, clinical, or commercial needs.

Neurogene and its contract manufacturers for AAV9 are subject to significant regulation with respect to manufacturing of Neurogene's products. The third-party manufacturing facilities on which Neurogene relies, Neurogene's in-house manufacturing facility, and any manufacturing facility that Neurogene may have in the future, may have limited capacity or fail to meet the applicable stringent regulatory requirements.

Neurogene currently has relationships with a limited number of suppliers for the raw materials, including plasmids and virus banks, required by the manufacturing processes of Neurogene's product candidates. Virus intended for use in its early preclinical studies has been and can be externally supplied; however, if Neurogene experiences slowdowns or problems with its in-house manufacturing facility and is unable to establish or scale its internal manufacturing capabilities, Neurogene will need to continue to contract with manufacturers to produce the preclinical, clinical and commercial supply and such supply will be more uncertain and subject to delays. In addition, each supplier may require licenses to manufacture certain components of the supply if such processes are not owned by the supplier or in the public domain and Neurogene may be unable to license such intellectual property rights on reasonable commercial terms or to transfer or sublicense the intellectual property rights it may have with respect to such activities.

All entities involved in the preparation of therapeutics for clinical trials or commercial sale, including Neurogene's existing contract manufacturers for components of its product candidates, are subject to extensive regulation. Components of a finished therapeutic product approved for commercial sale or used in late-stage clinical trials must be manufactured in accordance with cGMP. These regulations govern manufacturing processes and procedures (including recordkeeping) and the implementation and operation of quality systems to control and assure the quality of investigational products and products approved for sale. Poor control of production processes can lead to the introduction of adventitious agents or other contaminants, or to inadvertent changes in the properties or stability of Neurogene's product candidates that may not be detectable in final product testing. Neurogene or its contract manufacturers must supply all necessary documentation in support of a biologics license application ("BLA") or marketing authorization application ("MAA") on a timely basis. Neurogene's facilities and quality systems and the facilities and quality systems of some or all of its third-party contractors must pass a pre-approval inspection for compliance with the applicable regulations as a condition of regulatory approval of Neurogene's current or future product candidates. In addition, regulatory authorities may, at any time, audit or inspect a manufacturing facility involved with the preparation of Neurogene's current or future product candidates or the associated quality systems for compliance with the regulations applicable to the activities being conducted, and they could put a hold on one or more of Neurogene's clinical trials if the facilities of Neurogene's CDMOs do not pass such audit or inspections. If these facilities do not pass a pre-approval plant inspection, the FDA or other foreign regulatory agency approval of the products will not be granted.

Regulatory authorities also may, at any time following approval of a product for sale, inspect or audit Neurogene's manufacturing facilities or those of its third-party contractors. If any such inspection or audit identifies a failure to comply with applicable regulations or if a violation of Neurogene's product specifications or applicable regulations occurs independent of such an inspection or audit, Neurogene or the relevant regulatory authority may require remedial measures that may be costly and/or time-consuming for Neurogene or a third party to implement, and that may include the temporary or permanent suspension of a clinical trial or commercial sales or the temporary or permanent closure of a facility. Any such remedial measures imposed upon Neurogene or third parties with whom it contracts could harm Neurogene's business. If Neurogene or any of its third-party manufacturers fail to maintain regulatory compliance, the FDA or other foreign regulatory agencies can impose regulatory sanctions including, among other things, refusal to approve a pending application for a new drug product or biologic product, or revocation of a pre-existing approval. As a result, Neurogene's business, financial condition and results of operations may be harmed.

Additionally, if supply from one approved manufacturer is interrupted, there could be a significant disruption in commercial supply. An alternative manufacturer would need to be qualified through a BLA and/or MAA supplement, which could result in further delay. The regulatory agencies may also require additional

studies if a new manufacturer is relied upon for commercial production. Switching manufacturers may involve substantial costs and is likely to result in a delay in Neurogene's desired clinical and commercial timelines.

These factors could cause the delay of clinical trials, regulatory submissions, required approvals or commercialization of Neurogene's product candidates, cause Neurogene to incur higher costs and prevent it from commercializing its products successfully, if approved. Further, if Neurogene's suppliers fail to meet contractual requirements, and Neurogene is unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, Neurogene's clinical trials may be delayed or Neurogene could lose future potential revenue, if any.

Neurogene depends on third-party suppliers for materials used in the manufacture of its product candidates, and the loss of these third-party suppliers or their inability to supply Neurogene with adequate materials could harm Neurogene's business.

Neurogene relies on third-party suppliers for certain materials and components required for the production of its product candidates. Neurogene's dependence on these third-party suppliers and the challenges it may face in obtaining adequate supplies of materials involve several risks, including limited control over pricing, availability and quality of supplies and delivery schedules. There is substantial demand and limited supply for certain of the raw materials used to manufacture gene therapy products. As a small company, Neurogene's negotiation leverage is limited and it is likely to get lower priority than its competitors that are larger than Neurogene. Neurogene cannot be certain that its suppliers will continue to provide it with the quantities of raw materials that Neurogene requires or satisfy Neurogene's anticipated specifications and quality requirements. Any supply interruption in limited or sole sourced raw materials could materially harm Neurogene's ability to manufacture its product candidates until a new source of supply, if any, could be identified and qualified. Neurogene may be unable to find a sufficient alternative supply channel in a reasonable time or on commercially reasonable terms. Any performance failure on the part of Neurogene's suppliers could delay the development and potential commercialization of Neurogene's product candidates, including limiting supplies necessary for clinical trials and regulatory approvals, which would have a material adverse effect on Neurogene's business.

Delays in developing Neurogene's manufacturing capabilities or failure to achieve operating efficiencies from such capabilities may require Neurogene to devote additional resources and management time to manufacturing operations and may delay Neurogene's product development timelines.

Neurogene has a GMP manufacturing facility located in Houston, Texas that includes process, analytical and bioanalytical development labs with experienced teams. NGN-401 was manufactured at Neurogene's Houston facility and clinical-grade product is available for dosing as Neurogene advances its Phase 1/2 clinical trial of NGN-401. However, Neurogene will need to conduct additional NGN-401 manufacturing campaigns to generate additional clinical supply, as well as supply for its preclinical studies for its discovery programs, and Neurogene may not be able to satisfy such supply through production at its own facility.

Other risks relating to the manufacture of biologics and drug products include: production interruptions, delays in quality/release testing, equipment malfunctions, facility contamination, labor problems, natural disasters, disruption in utility services, terrorist activities, war, cases of force majeure, acts of god (such as public health crises) or other events beyond Neurogene's control and, in each case, could result in delays in Neurogene's production or difficulties in maintaining compliance with applicable regulatory requirements.

Any contamination or interruption in Neurogene's manufacturing process, shortages of raw materials or failure of Neurogene's suppliers to deliver necessary components could result in delays in Neurogene's clinical development or marketing schedules.

Given the nature of gene therapy manufacturing, there is a risk of contamination. Any contamination could adversely affect Neurogene's ability to produce product candidates on schedule and could, therefore, harm its

results of operations and cause reputational damage. Some of the raw materials required in Neurogene's manufacturing process are derived from biologic sources. Such raw materials are difficult to procure and may be subject to contamination or recall. A material shortage, contamination, recall or restriction on the use of biologically derived substances in the manufacture of Neurogene's product candidates could adversely impact or disrupt the commercial manufacturing or the production of clinical material, which could adversely affect Neurogene's development timelines and its business, financial condition, results of operations and prospects.

Neurogene may not be able to successfully manufacture its product candidates in sufficient quality and quantity, which would delay or prevent Neurogene from developing its product candidates and commercializing resulting approved products, if any.

To date, Neurogene has manufactured NGN-401 in quantities and quality adequate for preclinical, toxicology and clinical studies. In order to conduct clinical trials for a product candidate and for commercialization of the resulting product if that product candidate is approved for sale, Neurogene will need to manufacture product candidates in additional cGMP campaigns or in larger batch sizes. Neurogene may not be able to successfully repeat or increase the manufacturing capacity for any of its product candidates in a timely or cost-effective manner or at all. Significant changes or scale-up of manufacturing may require additional validation studies, which are costly and which regulatory authorities must review and approve. In addition, quality issues may arise during those changes or scale-up activities. If Neurogene is unable to successfully manufacture any of its product candidates in sufficient quality and quantity, the development of that product candidate and regulatory approval or commercial launch for any resulting products may be delayed or there may be a shortage in supply, which could significantly harm Neurogene's business.

Changes in methods of product candidate manufacturing or formulation may result in additional costs or delay.

As product candidates proceed through preclinical studies to late-stage clinical trials towards potential approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize processes and product characteristics. Such changes carry the risk that they will not achieve Neurogene's intended objectives. Any such changes could cause Neurogene's product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials conducted with the materials manufactured using altered processes. Such changes may also require additional testing, FDA notification or approval from the FDA or foreign regulatory agencies. This could delay completion of clinical trials, require the conduct of bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of Neurogene's product candidates and jeopardize Neurogene's ability to commence sales and generate revenue. In addition, Neurogene may be required to make significant changes to its upstream and downstream processes across its pipeline, which could delay the development of Neurogene's future product candidates.

Risks Related to Neurogene's Reliance on Third Parties

Neurogene has a number of academic collaborations, and currently relies on its collaboration with the University of Edinburgh for certain aspects of its preclinical research and development programs, including working in collaboration to discover and preclinically develop its lead product candidate for Rett syndrome and its near-term future pipeline. Failure or delay of the University of Edinburgh or any other collaborator to fulfil all or part of its obligations under its agreement with Neurogene, a breakdown in collaboration between the parties or a complete or partial loss of the relationship would materially harm Neurogene's business.

Neurogene's discovery engine is supplemented by academic collaborations to expand its platform, which Neurogene relies upon to advance discovery and development of its product candidates. For example, Neurogene's collaboration with the University of Edinburgh is critical to its business. In December 2020,
Neurogene entered into a Master Collaboration Agreement (the "MCA") with the University of Edinburgh, which Neurogene relies on to conduct certain aspects of the preclinical development of its pipeline candidates,

including NGN-401 and all of Neurogene's early-stage pipeline product candidates. Further, in March 2022, Neurogene entered into an exclusive license agreement with the University of Edinburgh for, with respect to certain University of Edinburgh-owned technology, a worldwide, exclusive, sublicensable license to develop, have developed, use, manufacture, have manufactured, supply, have supplied, sell, have sold, offer for sale, commercialize, import, export, register, reproduce, dispose of or otherwise exploit any products, processes, components, services and/or technologies incorporating the technology for the prevention or treatment of disease or medical or genetic conditions in humans. Neurogene also currently relies on the University of Edinburgh for portions of preclinical research capabilities under the direction of Dr. Stuart Cobb, Professor in Translational Neuroscience at the University of Edinburgh and Neurogene's Chief Scientific Officer. Pursuant to the MCA, Neurogene and the University of Edinburgh agreed to collaborate on certain research and development projects (the "Projects"), and Neurogene agreed to provide funding for such Projects. In exchange for such funding, the University of Edinburgh grants Neurogene an option to exclusively license any intellectual property arising from such Projects. Either party has the right in certain circumstances to terminate the collaboration pursuant to the terms of the MCA. If the MCA is not renewed or is terminated, Neurogene's pipeline of product candidates would be significantly adversely affected and its business would be materially harmed.

The term of the research funding portion of the MCA, under which Neurogene has the ability to acquire exclusive rights to additional technology and gene therapy products, expires in March 2024. Neurogene is currently seeking an extension to the MCA for another three-year term, but Neurogene cannot guarantee that this extension will be made on equally favorable terms, if at all. Neurogene may have disagreements with the University of Edinburgh with respect to the interpretation of the MCA, use of resources or otherwise that could cause the parties' relationship to deteriorate. As a result, the University of Edinburgh may reduce focus on, and resources allocated to, Neurogene's programs, potentially delaying or terminating Neurogene's ability to advance product candidates through preclinical studies. Additionally, if Dr. Cobb were to leave the University of Edinburgh or to otherwise no longer be meaningfully involved with Neurogene, Neurogene's preclinical research and development capabilities may be substantially reduced.

Further, under the MCA, the University of Edinburgh is primarily responsible for prosecuting and maintaining Neurogene's licensed intellectual property, and it may fail to properly prosecute, maintain or defend such intellectual property. In such event, if Neurogene is unable to otherwise maintain or defend such intellectual property, Neurogene could face the potential invalidation of the intellectual property or be subjected to litigation or arbitration, any of which would be time-consuming and expensive. To enforce the licensed intellectual property rights under the MCA, Neurogene will need to coordinate with the University of Edinburgh, which could slow down or hamper its ability to enforce its licensed intellectual property rights. If this happens, Neurogene could face increased competition that could materially and adversely affect its business. For a further description of the MCA, see "*Neurogene's Business—License Agreements*."

Additionally, in May 2019, Neurogene entered into an exclusive license agreement with the University of North Carolina ("UNC") for, with respect to the UNC invention known as "Optimized CLN5 Genes and Expression Cassettes and Their Use," a worldwide, exclusive, sublicensable license to make, use, sell, have made, have sold, offer for sale and import any method or process, composition, product, or component part thereof for the prevention or treatment of disease or medical or genetic conditions, including CLN5 Batten disease or other diseases stemming from dysfunction of the CLN5 gene.

Neurogene also currently has or may in the future engage in other academic collaborations to supplement its internal discovery and product development program. While these academic institutions have contractual obligations to Neurogene, they are independent entities and are not under Neurogene's control or the control of Neurogene's officers or directors. Neurogene's research and licensing agreements with academic collaborators generally provide academic collaborators with license maintenance fees, development and regulatory milestone payments, royalties on net sales of products and a portion of sublicense income that Neurogene receives. Upon the scheduled expiration of any academic collaboration, Neurogene may not be able to renew the related agreement, or any renewal could be on terms less favorable to Neurogene than those contained in the existing agreement. Furthermore, either Neurogene or the academic institution generally may terminate the sponsored

research agreement for convenience following a specified notice period. If any of these academic institutions decides to not renew or to terminate the related agreement or decides to devote fewer resources to such activities, Neurogene's discovery efforts would be diminished, while its royalty obligations, if any, would continue unmodified.

Neurogene currently relies on and intends in the future to rely on third parties to conduct a significant portion of its preclinical studies and existing clinical trials and potential future clinical trials for product candidates, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials.

Neurogene has engaged CROs or other third parties to conduct preclinical and IND enabling studies and its clinical trials, including its planned Phase 1/2 clinical trial of NGN-401 and its ongoing Phase 1/2 clinical trial of NGN-101. Neurogene expects to continue to rely on third parties, including CROs, medical institutions and clinical investigators, to conduct those clinical trials. Any of these third parties may terminate their engagements with Neurogene, some in the event of an uncured material breach and some at any time for convenience. If any of Neurogene's relationships with these third parties terminate, Neurogene may not be able to timely enter into arrangements with alternative third parties or do so on commercially reasonable terms, if at all. Switching or adding CROs involves substantial cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact Neurogene's ability to meet its desired clinical development timelines. Though Neurogene intends to carefully manage its relationships with CROs, there can be no assurance that Neurogene will not encounter challenges or delays in the future or that these delays or challenges will not have a material adverse impact on Neurogene's business and financial condition.

In addition, any third parties conducting Neurogene's clinical trials will not be Neurogene's employees, and except for remedies available to Neurogene under its agreements with such third parties, Neurogene cannot control whether or not such third parties devote sufficient time and resources to Neurogene's clinical programs. If these third parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to Neurogene's clinical protocols, regulatory requirements or for other reasons, Neurogene's clinical trials may be extended, delayed or terminated and it may not be able to obtain regulatory approval for or successfully commercialize its product candidates. Consequently, Neurogene's results of operations and the commercial prospects for its product candidates would be harmed, its costs could increase substantially and its ability to generate revenue could be delayed significantly.

Further, while Neurogene's reliance on these third parties for research and development activities will reduce Neurogene's control over these activities, Neurogene will not be relieved of its responsibilities for ensuring that each of its studies and trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards. For example, Neurogene will remain responsible for ensuring that each of its clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires Neurogene to comply with GCPs for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. Neurogene also is required to register ongoing clinical trials and post the results of completed clinical trials on a government-sponsored database, ClinicalTrials.gov, within specified timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions. If Neurogene or any of its CROs or other third parties, including trial sites, fail to comply with applicable GCPs, the clinical data generated in Neurogene's clinical trials may be deemed unreliable and the FDA, EMA or comparable foreign regulatory authorities may require Neurogene to perform additional clinical trials before approving its marketing applications. Neurogene cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of Neurogene's clinical trials complies with GCP regulations. In addition, Neurogene's clinical trials must be conducted with product produced under cGMP conditions. Neurogene's failure to comply with these regulations may require it to repeat clinical trials, which would delay the regulatory approval process.

In addition, principal investigators for Neurogene's clinical trials may serve as scientific advisors or consultants to Neurogene from time to time and receive compensation in connection with such services. Under certain circumstances, Neurogene may be required to report some of these relationships to the FDA. The FDA may conclude that a financial relationship between Neurogene and a principal investigator has created a conflict of interest or otherwise affected interpretation of the trial. The FDA may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of Neurogene's marketing applications by the FDA and may ultimately lead to the denial of marketing approval of NGN-401 and NGN-101 or any other product candidates.

Neurogene currently stores drug product for clinical trial sites in the United States, and currently relies on and expects in the future to rely on third parties to distribute product supplies for its clinical trials, as well as to store and distribute supply for clinical trial sites outside of the United States. Any performance failure on the part of Neurogene or Neurogene's distributors could delay clinical development or marketing approval of its product candidates or commercialization of its products, if approved, producing additional losses and depriving Neurogene of potential revenue.

Risks Related to Neurogene's Business and Operations

In order to successfully implement its plans and strategies, Neurogene will need to grow the size of its organization and it may experience difficulties in managing this growth.

Over time, Neurogene expects to experience significant growth in the number of its employees and the scope of its operations, particularly in the areas of preclinical and clinical biological product development, technical operations, clinical operations, regulatory affairs, manufacturing and, potentially, sales, marketing and distribution. To manage its anticipated future growth, Neurogene must continue to implement and improve its managerial, operational and financial personnel and systems, expand its facilities and continue to recruit and train additional qualified personnel. Due to its limited financial resources and the limited experience of its management team working together in managing a company with such anticipated growth, Neurogene may not be able to effectively manage the expansion of its operations or recruit and train additional qualified personnel. The expansion of Neurogene's operations may lead to significant costs and may divert its management and business development resources. Any inability to manage growth could delay the execution of Neurogene's business plans or disrupt its operations.

Neurogene is highly dependent on its key personnel and anticipates hiring new key personnel. If Neurogene is not successful in attracting and retaining highly qualified personnel, it may not be able to successfully implement its business strategy.

Neurogene's ability to compete in the highly competitive biotechnology and pharmaceutical industries depends upon its ability to attract and retain highly qualified managerial, scientific and medical personnel. Neurogene is highly dependent on its managerial, scientific and medical personnel, including its Founder and Chief Executive Officer, President and Chief Financial Officer, and its Chief Scientific Officer and other key members of its leadership team. Neurogene's executive officers may terminate their employment with Neurogene at any time. Neurogene does not maintain "key person" insurance for any of its executives or other employees. The loss of the services of its executive officers or other key employees could impede the achievement of its research, development and commercialization objectives and seriously harm its ability to successfully implement its business strategy. Furthermore, replacing executive officers and key personnel may be difficult and may take an extended period of time. If Neurogene does not succeed in attracting and retaining qualified personnel, it could materially and adversely affect its business, financial condition and results of operations. Neurogene could in the future have difficulty attracting and retaining experienced personnel and may be required to expend significant financial resources on its employee recruitment and retention efforts.

Neurogene's future growth may depend, in part, on its ability to operate in foreign markets, where it would be subject to additional regulatory burdens and other risks and uncertainties.

Neurogene's future growth may depend, in part, on its ability to develop and commercialize NGN-401 or NGN-101 or other product candidates in foreign markets for which Neurogene may rely on collaborations with third parties. Neurogene is not permitted to market or promote any product candidates before Neurogene receives regulatory approval from the applicable foreign regulatory authority, and may never receive such regulatory approval for any product candidates. To obtain separate regulatory approval in many other countries, Neurogene must comply with numerous and varying regulatory requirements of such countries regarding safety and efficacy and governing, among other things, clinical trials and commercial sales, pricing and distribution of NGN-401 or NGN-101 or other product candidates, and Neurogene cannot predict success in these jurisdictions. If Neurogene fails to comply with the regulatory requirements in international markets or to receive applicable marketing approvals, its target market will be reduced and its ability to realize the full market potential of NGN-401 or NGN-101 or other product candidates will be harmed and its business will be adversely affected. Moreover, even if Neurogene obtains approval of NGN-401 or NGN-101 or other product candidates and ultimately commercializes such product candidates in foreign markets, Neurogene would be subject to the risks and uncertainties, including the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements and reduced protection of intellectual property rights in some foreign countries.

Neurogene's employees, independent contractors, consultants, commercial collaborators, principal investigators, CROs, CDMOs, suppliers and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

Neurogene is exposed to the risk that its employees, independent contractors, consultants, commercial collaborators, principal investigators, CROs, CDMOs, suppliers and vendors acting for or on its behalf may engage in misconduct or other improper activities. It is not always possible to identify and deter misconduct by these parties and the precautions Neurogene takes to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting Neurogene from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations.

Neurogene's internal computer systems, or those of any of its CROs, manufacturers, other contractors, third party service providers or consultants or potential future collaborators, may fail or suffer security or data privacy breaches or other unauthorized or improper access to, use of, or destruction of its proprietary or confidential data, employee data or personal data, which could result in additional costs, loss of revenue, significant liabilities, harm to its brand and material disruption of its operations.

Despite the implementation of security measures in an effort to protect systems that store its information, given their size and complexity and the increasing amounts of information maintained on its internal information technology systems and those of its third-party CROs, other contractors (including sites performing its clinical trials), third-party service providers and supply chain companies, consultants and other partners, these systems are potentially vulnerable to breakdown or other damage or interruption from service interruptions, system malfunction, natural disasters, terrorism, war and telecommunication and electrical failures, as well as security breaches from inadvertent or intentional actions by its employees, contractors, consultants, business partners and/or other third parties, or from cyber-attacks by malicious third parties, which may compromise its system infrastructure or lead to the loss, destruction, alteration or dissemination of, or damage to, its data. Further, since Neurogene sponsors clinical trials, any breach that compromises patient data and identities causing a breach of privacy could have significant adverse consequences on Neurogene's business. For example, the loss of clinical trial data from completed or future clinical trials could affect trust in Neurogene to recruit for future clinical trials, result in delays in Neurogene's regulatory approval efforts and significantly increase its costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss, destruction, unavailability, alteration or dissemination of, or damage to, Neurogene's data or applications, or inappropriate disclosure of confidential proprietary information, or for it to be believed or reported that any of these occurred,

Neurogene could incur liability and reputational damage and the development and commercialization of NGN-101 or NGN-401 or other product candidates could be delayed.

As Neurogene's employees work remotely and utilize network connections, computers, and devices outside its premises or network, including working at home, while in transit and in public locations, there are risks to its information technology systems and data. Additionally, business transactions (such as acquisitions or integrations) could expose Neurogene to additional cybersecurity risks and vulnerabilities, as its systems could be negatively affected by vulnerabilities present in acquired or integrated entities' systems and technologies.

While Neurogene has implemented security measures designed to protect against security incidents, there can be no assurance that these measures will be effective. Neurogene may be unable in the future to detect vulnerabilities in its information technology systems because such threats and techniques change frequently, are often sophisticated in nature, and may not be detected until after a security incident has occurred. Further, Neurogene may experience delays in developing and deploying remedial measures designed to address any such identified vulnerabilities. Applicable data privacy and security obligations may require Neurogene to notify relevant stakeholders of security incidents. Such disclosures are costly, and the disclosure or the failure to comply with such requirements could lead to adverse consequences.

Neurogene relies on third-party service providers and technologies to operate critical business systems to process sensitive information in a variety of contexts. Its ability to monitor these third parties' information security practices is limited, and these third parties may not have adequate information security measures in place. If its third-party service providers experience a security incident or other interruption, Neurogene could experience adverse consequences. While Neurogene may be entitled to damages if its third-party service providers fail to satisfy their privacy or security-related obligations to Neurogene, any award may be insufficient to cover its monetary, reputational and other damages, or Neurogene may be unable to recover such award. In addition, supply-chain attacks have increased in frequency and severity, and Neurogene cannot guarantee that third parties' infrastructure in its supply chain or its third-party partners' supply chains have not been compromised.

If Neurogene (or a third party upon whom Neurogene relies) experiences a security incident or is perceived to have experienced a security incident, Neurogene may experience adverse consequences, such as government enforcement actions (for example, investigations, fines, penalties, audits, and inspections); additional reporting requirements and/or oversight; restrictions on processing sensitive information (including personal data); litigation (including class claims); indemnification obligations; negative publicity; reputational harm; monetary fund diversions; interruptions in its operations (including availability of data); increased investigation and compliance costs; financial loss; and other similar harms. Security incidents and attendant consequences may cause Neurogene's stakeholders (including investors and potential customers) to stop supporting its business, deter new customers from its products, deter patients from participating in clinical trials and negatively impact its ability to grow and operate its business.

Neurogene's contracts may not contain limitations of liability, and even where they do, there can be no assurance that limitations of liability in its contracts are sufficient to protect Neurogene from liabilities, damages, or claims related to its data privacy and security obligations. Neurogene cannot be sure that its insurance coverage will be adequate or sufficient to protect Neurogene from or to mitigate liabilities arising out of its privacy and security practices or from disruptions in, or failure or security breach of, its systems or third-party systems where information important to its business operations or commercial development is stored, or that such coverage will continue to be available on commercially reasonable terms or at all, or that such coverage will pay future claims.

Neurogene is subject to stringent and changing laws, regulations and standards, and contractual obligations relating to privacy, data protection, and data security. The actual or perceived failure to comply with such obligations could lead to government enforcement actions (which could include civil or criminal penalties), fines and sanctions, private litigation and/or adverse publicity and could negatively affect its operating results and business.

Neurogene, and third parties with whom Neurogene works, are or may become subject to numerous domestic and foreign laws, regulations, and standards relating to privacy, data protection, and data security, the scope of which are changing, subject to differing applications and interpretations, and may be inconsistent among countries, or conflict with other rules. Neurogene is or may become subject to the terms of contractual obligations related to privacy, data protection, and data security. Neurogene's obligations may also change or expand as its business grows. The actual or perceived failure by Neurogene or third parties related to Neurogene to comply with such laws, regulations and obligations could increase Neurogene's compliance and operational costs, expose it to regulatory scrutiny, actions, fines and penalties, result in reputational harm, lead to a loss of customers, result in litigation and liability, and otherwise cause a material adverse effect on its business, financial condition, and results of operations. See the sections entitled "*Neurogene's Business—Government Regulation—Data Privacy and Security" and "—Other Regulatory Matters*" for a more detailed description of the laws that may affect its ability to operate.

If Neurogene fails to comply with environmental, health and safety laws and regulations, Neurogene could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of its business.

Neurogene is subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Its operations may involve the use of hazardous and flammable materials, including chemicals and biological and radioactive materials. In addition, Neurogene may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair Neurogene's research, development or commercialization efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Neurogene's ability to utilize its net operating loss carryforwards and certain other tax attributes may be limited.

As of December 31, 2022, Neurogene had net operating loss carryforwards for federal and state income tax purposes of $110.5 million and $36.0 million, respectively. The federal net operating losses will not be subject to expiration and can be carried forward indefinitely; however, they are limited to a deduction to 80% of annual taxable income. The state net operating losses begin to expire in 2038. To the extent that Neurogene's taxable income exceeds any current year operating losses, Neurogene plans to use its carryforwards to offset income that would otherwise be taxable. Also, for state income tax purposes, the extent to which states will conform to the federal laws is uncertain and there may be periods during which the use of net operating loss carryforwards are suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. In addition, under Section 382 of the Code, changes in Neurogene's ownership may limit the amount of its net operating loss carryforwards and tax credit carryforwards that could be utilized annually to offset Neurogene's future taxable income, if any. This limitation would generally apply in the event of a cumulative change in ownership of Neurogene of more than 50% (as measured by value) among a stockholder or one or more groups of stockholders who own at least 5% of Neurogene's stock within a three-year period. Neurogene has not performed an analysis to determine whether there has been an ownership change pursuant to Section 382. Any such limitation may significantly reduce Neurogene's ability to utilize its net operating loss carryforwards and tax credit carryforwards before they expire. Any such limitation, whether as the result of a public offering, private placements, sales of Neurogene's common stock by its existing stockholders or additional sales of its common stock by Neurogene, could have a material adverse effect on Neurogene's results of operations in future years.

Neurogene may be subject to adverse legislative or regulatory tax changes that could negatively impact its financial condition.

The rules dealing with U.S. federal, state and local income taxation are constantly under review by persons involved in the legislative process and by the Internal Revenue Service and the U.S. Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect its stockholders or Neurogene. Neurogene assesses the impact of various tax reform proposals and modifications to existing tax treaties in all jurisdictions where it has operations to determine the potential effect on its business and any assumptions it has made about its future taxable income. Neurogene cannot predict whether any specific proposals will be enacted, the terms of any such proposals or what effect, if any, such proposals would have on its business if they were to be enacted. For example, the United States recently enacted the Inflation Reduction Act of 2022, which implements, among other changes, a 1% excise tax on certain stock buybacks. In addition, beginning in 2022, the Tax Cuts and Jobs Act eliminates the currently available option to deduct research and development expenditures and requires taxpayers to amortize them generally over five years. The U.S. Congress is considering legislation that would restore the current deductibility of research and development expenditures, however, there is no assurance that the provision will be repealed or otherwise modified. Such changes, among others, may adversely affect its effective tax rate, results of operation and general business condition.

Neurogene may acquire businesses or products, or form strategic alliances, in the future, and may not realize the benefits of such acquisitions.

Neurogene may acquire additional businesses or products, form strategic alliances, or create joint ventures with third parties that Neurogene believes will complement or augment its existing business. If Neurogene acquires businesses with promising markets or technologies, Neurogene may not be able to realize the benefit of acquiring such businesses if Neurogene is unable to successfully integrate them with its existing operations and company culture. Neurogene may encounter numerous difficulties in developing, manufacturing and marketing any new product candidates or products resulting from a strategic alliance or acquisition that delay or prevent Neurogene from realizing their expected benefits or enhancing its business. There is no assurance that, following any such acquisition, Neurogene will achieve the synergies expected in order to justify the transaction, which could result in a material adverse effect on its business and prospects.

Neurogene maintains its cash at financial institutions, at times in balances that exceed federally-insured limits. The failure of financial institutions could adversely affect Neurogene's ability to pay its operational expenses or make other payments.

Neurogene's cash held in non-interest-bearing and interest-bearing accounts at financial institutions can at times exceed the Federal Deposit Insurance Corporation ("FDIC") insurance limits. If such banking institutions were to fail, Neurogene could lose all or a portion of those amounts held in excess of such insurance limitations. For example, the FDIC took control of Silicon Valley Bank on March 10, 2023. The Federal Reserve subsequently announced that account holders would be made whole. However, the FDIC may not make all account holders whole in the event of future bank failures. In addition, even if account holders are ultimately made whole with respect to a future bank failure, account holders' access to their accounts and assets held in their accounts may be substantially delayed. Any material loss that Neurogene may experience in the future or inability for a material time period to access its cash and cash equivalents could have an adverse effect on its ability to pay its operational expenses or make other payments, which could adversely affect its business.

Risks Related to Intellectual Property

Neurogene's ability to protect its patents and other proprietary rights is uncertain, exposing Neurogene to the possible loss of competitive advantage.

Neurogene relies and expects to continue to rely upon a combination of patents, trademarks, trade secret protection and confidentiality agreements to protect the intellectual property related to its product candidates and

technologies and to prevent third parties from unfairly competing with it. Neurogene's success depends in large part on its ability to obtain and maintain patent protection for platform technologies, including its EXACT gene regulation platform, product candidates and their uses, as well as the ability to operate without infringing on or violating the proprietary rights of others. As of August 1, 2023, Neurogene owns 24 patent applications, including, U.S. patent applications, international patent applications under the Patent Cooperation Treaty ("PCT") or otherwise, and one pending U.S. provisional application, and expects to continue to file patent applications in the United States and abroad related to discoveries and technologies that are important to its business. However, Neurogene may not be able to protect its intellectual property rights throughout the world and the legal systems in certain countries may not favor enforcement or protection of patents, trade secrets and other intellectual property. Filing, prosecuting and defending patents on product candidates worldwide would be prohibitively expensive and Neurogene's intellectual property rights in some foreign jurisdictions may be less extensive than those in the United States. As such, Neurogene does not have patents in all countries or all major markets and may not be able to obtain patents in all jurisdictions even if it applies for them. Competitors may operate in countries where Neurogene does not have patent protection and could then freely use Neurogene's technologies and discoveries in such countries to the extent such technologies and discoveries are publicly known or disclosed in countries where patent protection has not been requested.

Neurogene's intellectual property portfolio is at an early stage. As of August 1, 2023, Neurogene does not own or in-license any issued patents. Neurogene's pending and future patent applications may not result in patents being issued. Any issued patents may not afford sufficient protection of Neurogene's product candidates or their intended uses against competitors, nor can there be any assurance that the patents issued will not be infringed, designed around, invalidated by third parties, or effectively prevent others from commercializing competitive technologies, products or product candidates. Even if these patents are granted, they may be difficult to enforce. Further, any issued patents that may be licensed or owned covering Neurogene product candidates could be narrowed or found invalid or unenforceable if challenged in court or before administrative bodies in the United States or abroad, including the United States Patent and Trademark Office ("USPTO"). Further, if Neurogene encounters delays in any clinical trials or delays in obtaining regulatory approval, the period of time during which Neurogene could market product candidates under patent protection would be reduced. Thus, the patents that Neurogene may own or license may not afford any meaningful competitive advantage.

In addition to seeking patents for some of its technology and product candidates, Neurogene may also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain its competitive position. Any disclosure, either intentional or unintentional, by its employees, the employees of third parties with whom Neurogene shares facilities or third-party consultants and vendors that Neurogene engages to perform researches, clinical trials or manufacturing activities, or misappropriation by third parties (such as through a cybersecurity breach) of its trade secrets or proprietary information could enable competitors to duplicate or surpass Neurogene's technological achievements, thus eroding its competitive position in the market. In order to protect its proprietary technology and processes, Neurogene relies in part on confidentiality agreements with collaborators, employees, consultants, outside scientific collaborators and sponsored researchers and other advisors. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. Neurogene may need to share its proprietary information, including trade secrets, with future business partners, collaborators, contractors and others located in countries at heightened risk of theft of trade secrets, including through direct intrusion by private parties or foreign actors and those affiliated with or controlled by state actors. In addition, while Neurogene undertakes efforts to protect its trade secrets and other confidential information from disclosure, others may independently discover trade secrets and proprietary information, and in such cases, Neurogene may not be able to assert any trade secret rights against such party. Costly and time-consuming litigation could be necessary to enforce and determine the scope of its proprietary rights and failure to obtain or maintain trade secret protection could adversely affect Neurogene's competitive business position.

Lastly, if Neurogene's trademarks and trade names are not registered or adequately protected, then Neurogene may not be able to build name recognition in markets of interest and its business may be adversely affected.

Neurogene may not be successful in obtaining or maintaining necessary rights to product candidates through acquisitions and in-licenses.

Because Neurogene's development programs require and may in the future require the use of proprietary rights held by third parties, the growth of its business may depend in part on Neurogene's ability to acquire, in-license, or use these third-party proprietary rights. Neurogene may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that it identifies as necessary for product candidates. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies may pursue strategies to license or acquire third-party intellectual property rights that Neurogene may consider attractive or necessary. These established companies may have a competitive advantage over Neurogene due to their size, capital resources and greater clinical development and commercialization capabilities. In addition, companies that perceive Neurogene to be a competitor may be unwilling to assign or license rights to Neurogene. Neurogene also may be unable to license or acquire third-party intellectual property rights on terms that would allow it to make an appropriate return on investment or at all. If Neurogene is unable to successfully obtain rights to required third-party intellectual property rights or maintain the existing intellectual property rights it has, Neurogene may have to abandon development of the relevant product candidate, which could have a material adverse effect on its business, financial condition, results of operations, and prospects.

While Neurogene will normally seek to obtain the right to control prosecution, maintenance and enforcement of the patents relating to a product candidate, there may be times when the filing and prosecution activities for patents and patent applications relating to a product candidate are controlled by future licensors or collaboration partners. For example, Neurogene currently licenses several patent families from the University of Edinburgh covering its EXACT gene regulation platform, as well as the NGN-401 product candidate and its uses. Neurogene also licenses a patent family covering the NGN-101 product candidate and its uses from UNC. If any of such licensors or collaboration partners fail to prosecute, maintain and enforce such patents and patent applications in a manner consistent with the best interests of Neurogene's business, including by payment of all applicable fees for patents covering a product candidate, Neurogene could lose rights to the intellectual property or exclusivity with respect to those rights, Neurogene's ability to develop and commercialize such candidates may be adversely affected and it may not be able to prevent competitors from making, using and selling competing products. In addition, even where Neurogene has the right to control patent prosecution of patents and patent applications which may be licensed to and from third parties, Neurogene may still be adversely affected or prejudiced by actions or inactions of licensees, future licensors and their counsel that took place prior to the date upon which Neurogene assumed control over patent prosecution.

Neurogene's future licensors may rely on third-party consultants or collaborators or on funds from third parties such that future licensors are not the sole and exclusive owners of the patents Neurogene in-licenses. If other third parties have ownership rights to future in-licensed patents, they may be able to license such patents to Neurogene's competitors, and the competitors could market competing products and technology. This could have a material adverse effect on Neurogene's competitive position, business, financial conditions, results of operations, and prospects.

It is possible that Neurogene may be unable to obtain licenses at a reasonable cost or on reasonable terms, if at all. Even if Neurogene is able to obtain a license, it may be non-exclusive, thereby giving competitors access to the same technologies licensed to Neurogene. In that event, Neurogene may be required to expend significant time and resources to redesign its technology, product candidates, or the methods for manufacturing the same, or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis. If Neurogene is unable to do so, it may be unable to develop or commercialize the affected product candidates, which could harm Neurogene's business, financial condition, results of operations, and prospects significantly. Neurogene cannot provide any assurances that third-party patents do not exist which might be enforced against Neurogene's current technology or manufacturing methods, its product candidates, or future methods or product candidates, resulting in either an injunction prohibiting manufacture or future sales, or, with

respect to future sales, an obligation on Neurogene's part to pay royalties and/or other forms of compensation to third parties, which could be significant.

Disputes may arise between Neurogene and its future licensors regarding intellectual property subject to a license agreement, including: the scope of rights granted under the license agreement and other interpretation-related issues; whether and to what extent to which Neurogene's technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement; Neurogene's right to sublicense patents and other rights to third parties; Neurogene's right to transfer or assign the license; the inventorship and ownership of inventions and know-how resulting from the joint creations or use of intellectual property by future licensors and Neurogene and/or its partners; and the priority date of an invention of patented technology.

Certain of Neurogene's current product candidates and research programs are licensed from or based upon licenses from a third party and are field limited to certain indications. If these license agreements are terminated or interpreted to narrow Neurogene's rights, Neurogene's ability to advance its current product candidates or develop new product candidates based on these technologies will be materially adversely affected.

Neurogene depends on, and will continue to depend on, its current licenses with UNC, the University of Edinburgh, Virovek, Inc. ("Virovek") and Sigma-Aldrich Co. LLC ("Sigma"), and on licenses and sublicenses from other third parties, as well as potentially on other strategic relationships with third parties, for the research, development, manufacturing and commercialization of Neurogene's current product candidates. If any of Neurogene's licenses or relationships or any in-licenses on which its licenses are based are terminated or breached, it may:

- lose its rights to develop and market its current product candidates;
- lose patent or trade secret protection for its current product candidates;
- experience significant delays in the development or commercialization of its current product candidates;
- not be able to obtain any other licenses on acceptable terms, if at all; or
- incur liability for damages.

Additionally, even if not terminated or breached, Neurogene's intellectual property licenses or sublicenses may be subject to disagreements over contract interpretation which could narrow the scope of Neurogene's rights to the relevant intellectual property or technology or increase Neurogene's financial or other obligations.

If Neurogene experiences any of the foregoing, it could have a materially adverse effect on its business and could force Neurogene to cease operations.

If Neurogene fails to comply with its obligations in any agreements under which it may license intellectual property rights from third parties or otherwise experience disruptions to its business relationships with its licensors, it could lose license rights that are important to its business.

Neurogene is party to license agreements with UNC, the University of Edinburgh, Virovek and Sigma and it may from time to time in the future be party to other license and collaboration agreements with third parties to advance its research or allow commercialization of current or future product candidates. Such agreements may impose numerous obligations, such as development, diligence, payment, commercialization, funding, milestone, royalty, sublicensing, insurance, patent prosecution, enforcement and other obligations on Neurogene and may require Neurogene to meet development timelines, or to exercise commercially reasonable efforts to develop and commercialize licensed products, in order to maintain the licenses. See "*Neurogene's Business—License*

Agreements" for more information regarding Neurogene's license agreements with UNC, the University of Edinburgh, Virovek and Sigma. Despite Neurogene's best efforts, its licensors might conclude that it has materially breached its license agreements and might therefore terminate the license agreements, thereby removing or limiting its ability to develop and commercialize products and technologies covered by these license agreements.

If these licenses are terminated for any reason, or if the underlying patents fail to provide the intended exclusivity, Neurogene could lose significant rights and its ability to commercialize its current or future product candidates may be harmed, and competitors or other third parties would have the freedom to seek regulatory approval of, and to market, products identical to Neurogene's and Neurogene may be required to cease its development and commercialization of certain of its current or future product candidates. Any of the foregoing could have a material adverse effect on Neurogene's competitive position, business, financial conditions, results of operations, and prospects.

Disputes may also arise between Neurogene and its licensors regarding intellectual property subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which Neurogene's technology and processes infringe, misappropriate or otherwise violate intellectual property rights of the licensor that is not subject to the licensing agreement;
- Neurogene's right to sublicense patent and other rights to third parties under collaborative development relationships;
- Neurogene's diligence obligations with respect to the use of the licensed technology in relation to its development and commercialization of its current or future product candidates, and what activities satisfy those diligence obligations;
- the priority of invention of any patented technology; and
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by Neurogene's current or future licensors and by Neurogene and its other partners.

In addition, the agreements under which Neurogene may license intellectual property or technology from third parties are likely to be complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what Neurogene believes to be the scope of its rights to the relevant intellectual property or technology, or increase what it believes to be its financial or other obligations under the relevant agreement, either of which could have a material adverse effect on its business, financial condition, results of operations and prospects. Moreover, if disputes over intellectual property that Neurogene may license prevent or impair its ability to maintain future licensing arrangements on acceptable terms, it may be unable to successfully develop and commercialize the affected current or future product candidates, which could have a material adverse effect on its business, financial conditions, results of operations and prospects.

Neurogene may be subject to patent infringement claims or may need to file claims to protect its intellectual property, which could result in substantial costs, liability and diversion of resources, and prevent or delay Neurogene from commercializing potential products.

Because the intellectual property landscape in the biotechnology industry is rapidly evolving and interdisciplinary, it is difficult to conclusively assess Neurogene's freedom to operate and guarantee that it can operate without infringing on or violating third party rights. If certain of Neurogene's product candidates are ultimately granted regulatory approval, patent rights held by third parties, if found to be valid and enforceable,

could be alleged to render one or more of such product candidates infringing. Neurogene cannot be certain that patents owned or licensed by it will not be challenged by others in the course of litigation. If a third party successfully brings a claim against Neurogene, Neurogene may be required to pay substantial damages, be forced to abandon any affected product candidate and/or seek a license from the patent holder. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on Neurogene's business.

Competitors may infringe or otherwise violate Neurogene's patents, trademarks, copyrights or other intellectual property. To counter infringement or other violations, Neurogene may be required to file claims, which can be expensive and time-consuming. Any such claims could provoke these parties to assert counterclaims against Neurogene, including claims alleging that Neurogene's intellectual property, methods or products infringes their patents or other intellectual property rights. In addition, in a patent infringement proceeding, a court or administrative body may decide that one or more of the patents Neurogene asserts is invalid or unenforceable, in whole or in part, construe the patent's claims narrowly or refuse to prevent the other party from using the technology at issue on the grounds that Neurogene's patents do not cover the technology. Similarly, if Neurogene asserts trademark infringement claims, a court or administrative body may determine that the marks asserted are invalid or unenforceable or that the party against whom Neurogene has asserted trademark infringement has superior rights to the marks in question. In such a case, Neurogene could ultimately be forced to cease use of such marks. In any intellectual property litigation, even if Neurogene is successful, any award of monetary damages or other remedy received may not be commercially valuable.

Further, Neurogene may be required to protect its patents through procedures created to attack the validity of a patent at the USPTO. An adverse determination in any such submission or proceeding could reduce the scope or enforceability of, or invalidate, Neurogene's patent rights, which could adversely affect its competitive position. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action.

If Neurogene is required to defend intellectual property actions brought by third parties, or if Neurogene sues to protect its own intellectual property rights or otherwise to protect is proprietary information and to prevent its disclosure, or if Neurogene is involved in other litigation, whether as a plaintiff or defendant, and whether or not successful, Neurogene may incur substantial legal expenses and the attention of its management and key personnel may be diverted from business operations. Further, some of Neurogene's competitors may be able to sustain the costs of complex intellectual property litigation more effectively than Neurogene can because they have substantially greater resources.

In addition, if Neurogene's product candidates are found to infringe the intellectual property rights of third parties, these third parties may assert infringement claims against Neurogene's future licensees and other parties with whom it has business relationships and Neurogene may be required to indemnify those parties for any damages they suffer as a result of these claims, which may require Neurogene to initiate or defend protracted and costly litigation on behalf of licensees and other parties regardless of the merits of such claims. If any of these claims succeed, Neurogene may be forced to pay damages on behalf of those parties or may be required to obtain licenses for the products they use, and may not be able to obtain such licenses on terms acceptable to Neurogene, if at all.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation or other legal proceedings relating to Neurogene's intellectual property rights, there is a risk that some of Neurogene's confidential information could be compromised by disclosure during this type of litigation or other proceedings.

Neurogene may be subject to claims that it has wrongfully hired an employee from a competitor or that employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties.

As is common in the biotechnology industry, in addition to employees, Neurogene engages and may engage in the services of consultants to assist in the development of its product candidates. Many of these consultants, and many of Neurogene's employees, were or may have been previously employed at, or may have previously provided or may be currently providing consulting services to, other biotechnology or pharmaceutical companies including Neurogene's competitors or potential competitors. Neurogene could in the future be subject to claims that it or its employees have inadvertently or otherwise used or disclosed alleged trade secrets or other confidential information of former employers or competitors. Although Neurogene tries to ensure that its employees and consultants do not use the intellectual property, proprietary information, know-how or trade secrets of others in their work for Neurogene, Neurogene may become subject to claims that it caused an employee to breach the terms of his or her non-competition or non-solicitation agreement, or that Neurogene or these individuals have, inadvertently or otherwise, used or disclosed the alleged trade secrets or other proprietary information of a former employer or competitor.

Neurogene may litigate to defend itself against these claims, and even if it is successful, litigation could result in substantial costs and could be a distraction to management. If Neurogene's defenses to these claims fail, in addition to requiring Neurogene to pay monetary damages, a court could prohibit it from using technologies or features that are essential to Neurogene's product candidates, if such technologies or features are found to incorporate or be derived from the trade secrets or other proprietary information of the former employers. Moreover, any such litigation or the threat thereof may adversely affect Neurogene's reputation, its ability to form strategic alliances or sublicense its rights to collaborators, engage with scientific advisors or hire employees or consultants, each of which would have an adverse effect on Neurogene's business, its operations and financial condition.

Changes to patent laws in the United States and other jurisdictions could diminish the value of patents in general, thereby impairing Neurogene's ability to protect its products.

Changes in either the patent laws or interpretation of patent laws in the United States, including patent reform legislation such as the Leahy-Smith America Invents Act (the "Leahy-Smith Act") could increase the uncertainties and costs surrounding the prosecution of Neurogene's owned and any future in-licensed patent applications and the maintenance, enforcement or defense of Neurogene's owned and any future in-licensed issued patents. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These changes include provisions that affect the way patent applications are prosecuted, redefine prior art, provide more efficient and cost-effective avenues for competitors to challenge the validity of patents, and enable third-party submission of prior art to the USPTO during patent prosecution along with additional procedures to attack the validity of a patent at USPTO-administered post-grant proceedings, including post-grant review, inter partes review, and derivation proceedings. Assuming that other requirements for patentability are met, prior to March 16, 2013, in the United States, the first to invent the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application was entitled to the patent. After March 16, 2013, under the Leahy-Smith Act, the United States transitioned to a first-to-file system in which, assuming that the other statutory requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. As such, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of Neurogene's patent applications and the enforcement or defense of Neurogene's issued patents, all of which could have a material adverse effect on its business, financial condition, its operations and prospects.

In addition, the patent positions of companies in the development and commercialization of biologics and pharmaceuticals are particularly uncertain. U.S. Supreme Court and U.S. Court of Appeals for the Federal Circuit rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights

of patent owners in certain situations, including in the antibody arts. This combination of events has created uncertainty with respect to the validity and enforceability of patents once obtained. Depending on future actions by the U.S. Congress, the federal courts and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on Neurogene's patent rights and its ability to protect, defend and enforce Neurogene's patent rights in the future.

Geopolitical actions in the United States and in foreign countries could increase the uncertainties and costs surrounding the prosecution or maintenance of patent applications and the maintenance, enforcement or defense of issued patents. Accordingly, Neurogene's competitive position may be impaired, and its business, financial condition, operations and prospects may be adversely affected.

In addition, a European Unified Patent Court ("UPC") came into force in June 2023. The UPC is a common patent court to hear patent infringement and revocation proceedings effective for member states of the European Union. This could enable third parties to seek revocation of a European patent in a single proceeding at the UPC rather than through multiple proceedings in each of the jurisdictions in which the European patent is validated. Neurogene currently has three pending European applications, and if Neurogene obtains such patents and applications in the future, any such revocation and loss of patent protection could have a material adverse impact on Neurogene's business and its ability to commercialize or license its technology and products. Moreover, the controlling laws and regulations of the UPC will develop over time, and may adversely affect Neurogene's ability to enforce or defend the validity of any European patents obtained. Neurogene may decide to opt out from the UPC for any future European patent applications that it may file and any patents it may obtain. If certain formalities and requirements are not met, however, such European patents and patent applications could be challenged for non-compliance and brought under the jurisdiction of the UPC. Neurogene cannot be certain that future European patents and patent applications will avoid falling under the jurisdiction of the UPC, if Neurogene decides to opt out of the UPC.

Obtaining and maintaining patent protection depends on compliance with various procedural, document submissions, fee payment and other requirements imposed by governmental patent agencies, and Neurogene's patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees, renewal fees, annuities fees and various other governmental fees on patents and/or patent applications are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent and/or patent application. The USPTO and various foreign governmental patent agencies also require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If Neurogene fails to maintain the patents and patent applications covering its product candidates, Neurogene's competitive position would be adversely affected.

Neurogene may not identify relevant third-party patents or may incorrectly interpret the relevance, scope or expiration of a third-party patent, which might adversely affect Neurogene's ability to develop and market its products.

Neurogene cannot guarantee that any of its patent searches or analyses, including the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are complete or thorough, nor can Neurogene be certain that it has identified each and every third-party patent and pending application in the United States and abroad that is relevant to or necessary for the commercialization of its product candidates in any jurisdiction. The scope of a patent claim is determined by an interpretation of the law, the written disclosure

in a patent and the patent's prosecution history. Neurogene's interpretation of the relevance or the scope of a patent or a pending application may be incorrect. For example, Neurogene may incorrectly determine that its products are not covered by a third-party patent or may incorrectly predict whether a third party's pending application will issue with claims of relevant scope. Neurogene's determination of the expiration date of any patent in the United States or abroad that it considers relevant may be incorrect. Neurogene's failure to identify and correctly interpret relevant patents may negatively impact its ability to develop and market its products.

In addition, because some patent applications in the United States may be maintained in secrecy until the patents are issued, patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, and publications in the scientific literature often lag behind actual discoveries, Neurogene cannot be certain that others have not filed patent applications for technology covered by Neurogene's pending applications or any future issued patents, or that Neurogene was the first to invent the technology. Neurogene's competitors may have filed, and may in the future file, patent applications covering its products or technology similar to Neurogene's. Any such patent application may have priority over Neurogene's patent applications or patents, which could require Neurogene to obtain rights to issued patents covering such technologies.

Neurogene may become subject to claims challenging the inventorship or ownership of its patents and other intellectual property.

Neurogene may be subject to claims that former employees, collaborators or other third parties have an interest in Neurogene's patents or other intellectual property as an inventor or co-inventor. The failure to name the proper inventors on a patent application can result in the patents issuing thereon being unenforceable. Inventorship disputes may arise from conflicting views regarding the contributions of different individuals named as inventors, the effects of foreign laws where foreign nationals are involved in the development of the subject matter of the patent, conflicting obligations of third parties involved in developing Neurogene's product candidates or as a result of questions regarding co-ownership of potential joint inventions. Litigation may be necessary to resolve these and other claims challenging inventorship and/or ownership. Alternatively, or additionally, Neurogene may enter into agreements to clarify the scope of its rights in such intellectual property. If Neurogene fails in defending any such claims, in addition to paying monetary damages, Neurogene may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on Neurogene's business. Even if Neurogene is successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Neurogene's current or future licensors may have relied on third-party consultants or collaborators or on funds from third parties, such as the U.S. government or academic institutions, such that Neurogene's licensors are not the sole and exclusive owners of the patents Neurogene in-licensed. If other third parties have ownership rights or other rights to Neurogene's in-licensed patents, they may be able to license such patents to Neurogene's competitors, and its competitors could market competing products and technology. This could have a material adverse effect on Neurogene's competitive position, business, financial conditions, operations, and prospects.

Patent terms may be inadequate to protect Neurogene's competitive position on its product candidates for an adequate amount of time.

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering Neurogene's product candidates are obtained, once the patent life has expired, Neurogene may be open to competition from competitive products, including generics or biosimilars. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such product candidates might expire before or shortly after such product candidates are commercialized. As a result,

Neurogene's owned and future licensed patent portfolio may not provide it with sufficient rights to exclude others from commercializing products similar or identical to Neurogene's.

Some intellectual property that Neurogene has in-licensed may have been discovered through government funded programs and thus may be subject to federal regulations such as "march-in" rights, certain reporting requirements and a preference for U.S.-based companies. Compliance with such regulations may limit Neurogene's exclusive rights, and limit its ability to contract with non-U.S. manufacturers.

Certain of the intellectual property rights Neurogene has licensed are generated through the use of U.S. government funding and are therefore subject to certain federal regulations. As a result, the U.S. government may have certain rights to intellectual property embodied in Neurogene's current or future product candidates pursuant to the Bayh-Dole Act of 1980 (the "Bayh-Dole Act"), and implementing regulations. These U.S. government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In addition, the U.S. government has the right to require Neurogene or its licensors to grant exclusive, partially exclusive, or non-exclusive licenses to any of these inventions to a third party if it determines that: (i) adequate steps have not been taken to commercialize the invention; (ii) government action is necessary to meet public health or safety needs; or (iii) government action is necessary to meet requirements for public use under federal regulations (also referred to as "march-in rights"). The U.S. government also has the right to take title to these inventions if Neurogene, or the applicable licensor, fails to disclose the invention to the government and fails to file an application to register the intellectual property within specified time limits. These time limits have recently been changed by regulation, and may change in the future. Intellectual property generated under a government funded program is also subject to certain reporting requirements, compliance with which may require us or the applicable licensor to expend substantial resources. In addition, the U.S. government requires that any products embodying the subject invention or produced through the use of the subject invention be manufactured substantially in the United States. The manufacturing preference requirement can be waived if the owner of the intellectual property can show that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible. This preference for U.S. manufacturers may limit Neurogene's ability to contract with non-U.S. product manufacturers for products covered by such intellectual property. To the extent any of Neurogene's current or future intellectual property is generated through the use of U.S. government funding, the provisions of the Bayh-Dole Act may similarly apply.

Risks Related to Government Regulation

The regulatory approval processes of the FDA and other comparable foreign regulatory authorities are lengthy, time-consuming and inherently unpredictable. If Neurogene is not able to obtain, or if there are delays in obtaining, required regulatory approvals for its product candidates, Neurogene will not be able to commercialize, or will be delayed in commercializing, such product candidates, and its ability to generate revenue will be materially impaired.

The process of obtaining regulatory approvals, both in the United States and abroad, is unpredictable, expensive and typically takes many years following commencement of clinical trials, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Neurogene cannot commercialize product candidates in the United States without first obtaining regulatory approval from the FDA. Similarly, Neurogene cannot commercialize product candidates outside of the United States without obtaining regulatory approval from comparable foreign regulatory authorities. Before obtaining regulatory approvals for the commercial sale of its product candidates, including its most advanced product candidates, NGN-401 and NGN-101, Neurogene must demonstrate through lengthy, complex and expensive preclinical and clinical trials that such product candidates are safe, pure and effective or potent for each targeted indication. Securing regulatory approval also requires the submission of information about the biological product manufacturing process to, and inspection of manufacturing facilities by,

the relevant regulatory authority. Further, a product candidate may not be effective or potent, may be only moderately effective or potent or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude its obtaining marketing approval. The FDA and comparable foreign regulatory authorities have substantial discretion in the approval process and may refuse to accept any application or may decide that its data are insufficient for approval and require additional preclinical, clinical or other data. A product candidate could be delayed in receiving, or fail to receive, regulatory approval for many reasons, including: the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of its clinical trials; Neurogene may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a product candidate is safe, pure, and effective or potent for its proposed indication; the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval; serious and unexpected product-related side effects may be experienced by participants in its clinical trials or by individuals using drugs or biological products similar to a product candidate; Neurogene may be unable to demonstrate that a candidate's clinical and other benefits outweigh its safety risks; the FDA or comparable foreign regulatory authorities may disagree with its interpretation of data from preclinical studies or clinical trials; the data collected from clinical trials of a product candidate may not be acceptable or sufficient to support the submission of a BLA or other submission or to obtain regulatory approval in the United States or elsewhere, and Neurogene may be required to conduct additional clinical trials; the FDA or the applicable foreign regulatory authority may disagree regarding the formulation, labeling and/or the specifications of a product candidate; the FDA or comparable foreign regulatory authorities may fail to approve the manufacturing processes or facilities of third-party manufacturers with which Neurogene contracts for clinical and commercial supplies; and the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering Neurogene's clinical data insufficient for approval.

Of the large number of products in development, only a small percentage successfully complete the FDA or foreign regulatory approval processes and are commercialized. The lengthy approval process as well as the unpredictability of future clinical trial results may result in Neurogene failing to obtain regulatory approval to market NGN-401 or NGN-101 or other product candidates, which would significantly harm its business, results of operations and prospects.

If Neurogene were to obtain approval, regulatory authorities may approve any such product candidate for fewer or more limited indications than Neurogene requests, including failing to approve the most commercially promising indications, may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. If Neurogene is not able to obtain, or if there are delays in obtaining, required regulatory approvals for a product candidate, Neurogene will not be able to commercialize, or will be delayed in commercializing, such product candidate and its ability to generate revenue may be materially impaired.

Because gene therapy is novel and the regulatory landscape that governs any product candidates Neurogene may develop is rigorous, complex, uncertain and subject to change, Neurogene cannot predict the time and cost of obtaining regulatory approval, if received at all, for any product candidates Neurogene may develop.

The regulatory requirements that will govern any novel gene therapy product candidates Neurogene develops are not entirely clear and are subject to change. Within the broader genetic medicine field, very few therapeutic products have received marketing authorization from the FDA or the EMA. Even with respect to more established products that fit into the categories of gene therapies or cell therapies, the regulatory landscape is still developing. Regulatory requirements governing gene therapy products and cell therapy products have changed frequently and will likely continue to change in the future. Moreover, there is substantial overlap in those responsible for review and regulation of existing gene therapy products and cell therapy products. For example, in the United States, the FDA has established the Office of Therapeutic Products within its Center for Biologics Evaluation and Research ("CBER"), as part of its reorganization of the Office of Tissues and

Advanced Therapies, to consolidate the review of gene therapy and related products. In addition, the Cellular, Tissue and Gene Therapies Advisory Committee advises CBER on its review.

Neurogene's product candidates will need to meet safety, purity and efficacy or potency standards applicable to any new biologic under the regulatory framework administered by the FDA. In addition to FDA oversight and oversight by IRBs under guidelines promulgated by the National Institutes of Health ("NIH") gene therapy clinical trials are also subject to review and oversight by an institutional biosafety committee ("IBC"), a local institutional committee that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at that institution. The IBC assesses the safety of the research and identifies any potential risk to public health or the environment. While the NIH guidelines are not mandatory unless the research in question is being conducted at or sponsored by institutions receiving NIH funding of recombinant or synthetic nucleic acid molecule research, many companies and other institutions not otherwise subject to the NIH guidelines voluntarily follow them. Although the FDA decides whether individual gene therapy protocols may proceed, the review process and determinations of other reviewing bodies can impede or delay the initiation of a clinical trial, even if the FDA has reviewed the trial and approved its initiation.

The same applies in the European Union. The EMA's Committee for Advanced Therapies ("CAT") is responsible for assessing the quality, safety, and efficacy of advanced-therapy medicinal products. Advanced-therapy medicinal products include gene therapy medicines, somatic-cell therapy medicines and tissue-engineered medicines. The role of the CAT is to prepare a draft opinion on an application for marketing authorization for a gene therapy medicinal candidate that is submitted to the EMA. In the European Union, the development and evaluation of a gene therapy product must be considered in the context of the relevant EU guidelines. The EMA may issue new guidelines concerning the development and marketing authorization for gene therapy products and require that Neurogene comply with these new guidelines. As a result, the procedures and standards applied to gene therapy products and cell therapy products may be applied to any gene therapy product candidate Neurogene may develop, but that remains uncertain at this point.

Adverse developments in preclinical studies or clinical trials conducted by others in the field of gene therapy and gene regulation products may cause the FDA, the EMA, and other regulatory authorities to revise the requirements for approval of any product candidates Neurogene may develop or limit the use of products utilizing gene regulation technologies, either of which could harm Neurogene's business. In addition, the clinical trial requirements of the FDA, the EMA, and other regulatory authorities and the criteria these regulators use to determine the safety, purity and efficacy or potency of a product candidate vary substantially according to the type, complexity, novelty, and intended use and market of the potential products. The regulatory approval process for product candidates such as those being developed by Neurogene can be more expensive and take longer than for other, better known, or more extensively studied pharmaceutical or other product candidates. Further, as Neurogene is developing novel potential treatments for diseases in which, in some cases, there is little clinical experience with potential new endpoints and methodologies, heightened risk that the FDA, the EMA or other regulatory authorities may not consider the clinical trial endpoints to provide clinically meaningful results, and the resulting clinical data and results may be more difficult to analyze. In addition, Neurogene may not be able to identify or develop appropriate animal disease models to enable or support planned clinical development. Any natural history studies that Neurogene may conduct or rely upon in its clinical development may not be accepted by the FDA, EMA or other regulatory authorities. Regulatory agencies administering existing or future regulations or legislation may not allow production and marketing of products utilizing gene regulation technology in a timely manner or under technically or commercially feasible conditions. In addition, regulatory action or private litigation could result in expenses, delays, or other impediments to Neurogene's research programs or the commercialization of resulting products. Further, approvals by one regulatory agency may not be indicative of what other regulatory agencies may require for approval.

The regulatory review committees and advisory groups described above and the new guidelines they promulgate may lengthen the regulatory review process, require Neurogene to perform additional preclinical studies or clinical trials, increase Neurogene's development costs, lead to changes in regulatory positions and

interpretations, delay or prevent approval and commercialization of these treatment candidates, or lead to significant post-approval limitations or restrictions. As Neurogene advances its research programs and develops future product candidates, it will be required to consult with these regulatory and advisory groups and to comply with applicable guidelines. If Neurogene fails to do so, it may be required to delay or discontinue development of any product candidates it identifies and develops. These additional processes may result in a review and approval process that is longer than Neurogene otherwise would have expected. Delays as a result of an increased or lengthier regulatory approval process or further restrictions on the development of Neurogene's product candidates can be costly and could negatively impact Neurogene's ability to complete clinical trials and commercialize its current and future product candidates in a timely manner, if at all.

Disruptions at the FDA and other regulatory authorities could negatively affect the review of Neurogene's regulatory submissions, which could negatively impact its business.

The ability of the FDA and other regulatory authorities to review and approve regulatory submissions can be affected by a variety of factors, including understaffing, disruptions caused by government shutdowns and public health crises. Such disruptions could significantly impact the ability of the FDA or other regulatory authorities to timely review and process its regulatory submissions, which could have a material adverse effect on Neurogene's business.

Neurogene may not be able to meet requirements for the chemistry, manufacturing and control of its product candidates.

In order to receive approval of its products by the FDA and comparable foreign regulatory authorities, Neurogene must show that Neurogene and its contract manufacturing partners are able to characterize, control and manufacture its biological products safely and in accordance with regulatory requirements. This includes manufacturing the drug substance, developing an acceptable formulation, performing tests to adequately characterize the formulated product, documenting a repeatable manufacturing process, and demonstrating that its biological products meet stability requirements. Meeting these chemistry, manufacturing and control ("CMC") requirements is a complex task that requires specialized expertise. If Neurogene is not able to meet the CMC requirements, Neurogene may not be successful in getting its products approved.

Neurogene intends to deliver its product candidates via a drug delivery device that will have its own regulatory, development, supply and other risks.

Neurogene intends to deliver its product candidates via a drug delivery device, such as a catheter or other delivery system. There may be unforeseen technical complications related to the development activities required to bring such a product to market, including primary container compatibility and/or dose volume requirements. Neurogene's product candidates may not be approved or may be substantially delayed in receiving approval if the devices do not gain and/or maintain their own regulatory approvals or clearances. Where approval of the drug product and device is sought under a single application, the increased complexity of the review process may delay approval. In addition, some drug delivery devices are provided by single-source unaffiliated third-party companies. Neurogene may be dependent on the sustained cooperation and effort of those third-party companies both to supply the devices and, in some cases, to conduct the studies required for approval or other regulatory clearance of the devices. Even if approval is obtained, Neurogene may also be dependent on those third-party companies continuing to maintain such approvals or clearances once they have been received. Failure of third-party companies to supply the devices, to successfully complete studies on the devices in a timely manner, or to obtain or maintain required approvals or clearances of the devices could result in increased development costs, delays in or failure to obtain regulatory approval and delays in product candidates reaching the market or in gaining approval or clearance for expanded labels for new indications.

Neurogene currently and may in the future conduct clinical trials for its product candidates at sites outside the United States, and the FDA may not accept data from trials conducted in such locations.

Neurogene plans to conduct clinical trials outside the United States, including in Australia, the UK, Europe or other foreign jurisdictions. For example, Neurogene currently intends to conduct its Phase 1/2 clinical trial for NGN-401 in the United States and outside the United States. Neurogene's Phase 1/2 clinical trial for NGN-101 is currently being conducted in the United States and in the UK. In cases where data from clinical trials conducted outside the United States are intended to serve as the sole basis for marketing approval in the United States, the FDA will generally not approve the application on the basis of foreign data alone unless (i) the data are applicable to the United States population and United States medical practice; (ii) the trials were performed by clinical investigators of recognized competence and (iii) the data may be considered valid without the need for an on-site inspection by the FDA or, if the FDA considers such an inspection to be necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means. Additionally, the FDA's clinical trial requirements, including sufficient size of patient populations and statistical powering, must be met. Many foreign regulatory authorities have similar approval requirements. In addition, such foreign trials would be subject to the applicable local laws of the foreign jurisdictions where the trials are conducted. There can be no assurance that the FDA or any similar foreign regulatory authority will accept data from trials conducted outside of the United States or the applicable jurisdiction. If the FDA or any similar foreign regulatory authority does not accept such data, it would result in the need for additional trials, which would be costly and time-consuming and delay aspects of Neurogene's business plan, and which may result in Neurogene's product candidates not receiving approval or clearance for commercialization in the applicable jurisdiction. Even if the FDA accepts such data, it could require Neurogene to modify its planned clinical trials to receive clearance to initiate such trials in the United States or to continue such trials once initiated.

Other risks inherent in conducting international clinical trials include: foreign regulatory requirements, differences in healthcare services, and differences in cultural customs that could restrict or limit its ability to conduct its clinical trials; administrative burdens of conducting clinical trials under multiple sets of foreign regulations; foreign exchange fluctuations; diminished protection of intellectual property in some countries; and political and economic risks relevant to foreign countries.

Neurogene's product candidates for which it intends to seek approval as biologics may face competition sooner than anticipated.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the "ACA"), includes a subtitle called the Biologics Price Competition and Innovation Act of 2009 ("BPCIA"), which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product. Under the BPCIA, an application for a highly similar or "biosimilar" product may not be submitted to the FDA until four years following the date that the reference product was first approved by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first approved. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of its product.

Neurogene's investigational biological products, if approved, could be considered reference products entitled to 12-year exclusivity. However, there is a risk that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider a product candidate to be reference products for competing products, potentially creating the opportunity for competition sooner than anticipated. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. Moreover, the extent to which a biosimilar, once approved, will be substituted for any reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

Even if Neurogene receives regulatory approval of NGN-401 or NGN-101 or other product candidates, Neurogene will be subject to extensive ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and Neurogene may be subject to penalties if it fails to comply with regulatory requirements or experiences unanticipated problems with its product candidates.

Any regulatory approvals that Neurogene may receive for NGN-401 or NGN-101 or other product candidates will require the submission of reports to regulatory authorities and surveillance to monitor the safety, purity and efficacy or potency of such product candidates, may contain significant limitations related to use restrictions for specified age groups, warnings, precautions or contraindications, and may include burdensome post-approval study or risk management requirements. For example, the FDA may require a risk evaluation and mitigation strategy in order to approve a product candidate, which could entail requirements for a medication guide, physician training and communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or comparable foreign regulatory authorities approve a product candidate, the products and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, purity, efficacy or potency, recordkeeping, labeling, storage, approval, advertising, promotion, sale, distribution, import and export will be subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by comparable foreign regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as on-going compliance with current cGMPs and GCPs for any clinical trials that Neurogene conducts following approval. In addition, manufacturers of drug products and their facilities are subject to continual review and periodic, unannounced inspections by the FDA and other regulatory authorities for compliance with cGMPs.

If Neurogene or a regulatory authority discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facilities where the product is manufactured, a regulatory authority may impose restrictions on that product, the manufacturing facility or Neurogene, including requiring recall or withdrawal of the product from the market or suspension of manufacturing, requiring the addition of labeling statements, such as a “black box” warning or a contraindication, requiring creation of a medication guide outlining the risk of such side effects for distribution to patients, withdrawal or suspension of existing approvals or licenses, refusal to approve pending applications or supplements, restrictions on its ability to conduct clinical trials, including full or partial clinical holds on ongoing or planned trials, restrictions on the manufacturing process, warning or untitled letters, civil and criminal penalties, injunctions, product seizures, detentions or import bans, voluntary or mandatory publicity requirements and imposition of restrictions on operations, including costly new manufacturing requirements. The occurrence of any event or penalty described above may inhibit Neurogene’s ability to commercialize NGN-401 or NGN-101 or other product candidates and generate revenue and could require Neurogene to expend significant time and resources in response and could generate negative publicity.

Neurogene may face difficulties from healthcare legislative reform measures.

Existing regulatory policies may change, and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of NGN-401 or NGN-101 or other product candidates. Neurogene cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If Neurogene is slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if it is not able to maintain regulatory compliance, Neurogene may lose any marketing approval that it may have obtained and it may not achieve or sustain profitability. See the section entitled “*Neurogene’s Business—Government Regulation—Healthcare Reform*” for a more detailed description of healthcare reforms measures that may prevent Neurogene from being able to generate revenue, attain profitability, or commercialize product candidates.

Neurogene's business operations and current and future arrangements with investigators, healthcare professionals, consultants, third-party payors, patient organizations and customers will be subject to applicable healthcare regulatory laws, which could expose Neurogene to penalties.

Neurogene's business operations and current and future arrangements with investigators, healthcare professionals, consultants, third-party payors, patient organizations and customers may expose Neurogene to broadly-applicable fraud and abuse and other healthcare laws and regulations. These laws may constrain the business or financial arrangements and relationships through which Neurogene conducts its operations, including how Neurogene researches, markets, sells and distributes its product candidates, if approved. See the section entitled "*Neurogene's Business—Government Regulation—Other Healthcare Laws and Compliance Requirements*" for a more detailed description of the laws that may affect its ability to operate.

Ensuring that its internal operations and future business arrangements with third parties comply with applicable healthcare laws and regulations will involve substantial costs. If Neurogene's operations are found to be in violation of any of these laws or any other governmental laws and regulations that may apply to it, Neurogene may be subject to significant penalties, including civil, criminal and administrative penalties, damages, fines, exclusion from government-funded healthcare programs, integrity oversight and reporting obligations to resolve allegations of non-compliance, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits and the curtailment or restructuring of its operations. Further, defending against any such actions can be costly and time-consuming and may require significant personnel resources. Therefore, even if Neurogene is successful in defending against any such actions that may be brought against Neurogene, its business may be impaired.

Even if Neurogene is able to commercialize NGN-401 or NGN-101 or other product candidates, due to unfavorable pricing regulations and/or third-party coverage and reimbursement policies, Neurogene may not be able to offer such products at competitive prices which would seriously harm its business.

Neurogene intends to seek approval to market NGN-401 and NGN-101 and other product candidates in both the United States and in selected foreign jurisdictions. If Neurogene obtains approval in one or more foreign jurisdictions for such product candidates, Neurogene will be subject to rules and regulations in those jurisdictions. Its ability to successfully commercialize any product candidates that Neurogene may develop will depend in part on the extent to which reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and other third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. Government authorities and other third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. These entities may create preferential access policies for a competitor's product, including a branded or generic/biosimilar product, over its products in an attempt to reduce their costs, which may reduce its commercial opportunity. Additionally, if any of its product candidates are approved and Neurogene is found to have improperly promoted off-label uses of those programs, Neurogene may become subject to significant liability, which would materially adversely affect its business and financial condition. See the sections entitled "*Neurogene's Business—Government Regulation—Coverage and Reimbursement" and "—Regulation in the European Union*" for a more detailed description of the government regulations and third-party payor practices that may affect Neurogene's ability to commercialize product candidates.

Neurogene is subject to U.S. and certain foreign export and import controls, sanctions, embargoes, anti-corruption laws, and anti-money laundering laws and regulations. Neurogene can face criminal liability and other serious consequences for violations, which can harm its business.

Neurogene is subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls, the U.S. Foreign Corrupt

Practices Act of 1977, as amended, the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, and other state and national anti-bribery and anti-money laundering laws in the countries in which Neurogene conducts activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, contractors, and other collaborators from authorizing, promising, offering, or providing, directly or indirectly, improper payments or anything else of value to or from recipients in the public or private sector. Neurogene may engage third parties to sell products outside the United States, to conduct clinical trials, and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals. Neurogene has direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities, and other organizations. Neurogene can be held liable for the corrupt or other illegal activities of its employees, agents, contractors, and other collaborators, even if Neurogene does not explicitly authorize or have actual knowledge of such activities. Any violations of the laws and regulations described above may result in substantial civil and criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences.

Governments outside the United States may impose strict price controls, which may adversely affect Neurogene's revenue, if any.

In some countries, particularly member states of the European Union, the pricing of prescription drugs is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after receipt of marketing approval for a therapeutic. In addition, there can be considerable pressure by governments and other stakeholders on prices and reimbursement levels, including as part of cost containment measures. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various EU member states and parallel distribution, or arbitrage between low-priced and high-priced member states, can further reduce prices. To obtain coverage and reimbursement or pricing approvals in some countries, Neurogene or current or future collaborators may be required to conduct a clinical trial or other studies that compare the cost-effectiveness of a product to other available therapies in order to obtain or maintain reimbursement or pricing approval. Publication of discounts by third-party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. If reimbursement of any product approved for marketing is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, Neurogene's business, financial condition, results of operations or prospects could be materially and adversely affected. Brexit could lead to legal uncertainty and potentially divergent national laws and regulations, including those related to the pricing of prescription pharmaceuticals, as the UK determines which EU laws to replicate or replace. If the UK were to significantly alter its regulations affecting the pricing of prescription pharmaceuticals, Neurogene could face significant new costs.

While Neurogene has received Fast Track designation for NGN-401 for the treatment of Rett syndrome and for NGN-101 for the treatment of CLN5 Batten disease and Neurogene may seek certain designations for its other product candidates, including Breakthrough Therapy, and Priority Review designations in the United States, Neurogene may not receive such designations, and even if it does, such designations may not lead to a faster development or regulatory review or approval process.

Neurogene has received Fast Track designation in the United States for NGN-401 for the treatment of Rett syndrome and for NGN-101 for the treatment of CLN5 Batten disease, and Neurogene may seek additional designations for one or more of its other product candidates that could expedite review and approval by the FDA. A Breakthrough Therapy product is defined as a product that is intended, alone or in combination with one or more other products, to treat a serious or life threatening disease or condition, and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For products that have been designated as Breakthrough Therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens.

The FDA may also designate a product for Fast Track review if it is intended, whether alone or in combination with one or more other products, for the treatment of a serious or life-threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. For Fast Track products, sponsors may have greater interactions with the FDA and the FDA may initiate review of sections of a Fast Track product's application before the application is complete. This rolling review may be available if the FDA determines, after preliminary evaluation of clinical data submitted by the sponsor, that a Fast Track product may be effective.

Neurogene may also seek a priority review designation for one or more of its product candidates. If the FDA determines that a product candidate offers a treatment for a serious condition, and if approved, would provide a significant improvement in safety or effectiveness where no adequate therapy exists, the FDA may designate the product candidate for priority review. A priority review designation means that the goal for the FDA to review an application is six months, rather than the standard review period of ten months.

These designations are within the discretion of the FDA. Accordingly, even if Neurogene believes that one of its product candidates meets the criteria for these designations, the FDA may disagree and instead determine not to make such designation. Further, even if Neurogene receives a designation, the receipt of such designation for a product candidate may not result in a faster development or regulatory review or approval process compared to products considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA, including the Fast Track designation Neurogene received for NGN-401. In addition, even if one or more of Neurogene's product candidates qualifies for these designations, the FDA may later decide that the product candidates no longer meet the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

The regenerative medicine advanced therapy, or RMAT, designation by the FDA for any of Neurogene's product candidates may not lead to a faster development or regulatory review or approval process and it does not increase the likelihood that Neurogene's product candidates will receive marketing approval.

We may seek an RMAT designation for Neurogene's product candidates if the clinical data support such a designation for one or more product candidates. The RMAT designation program is intended to fulfill the Cures Act requirement that the FDA facilitate an efficient development program for, and expedite review of, any product that meets the following criteria: (1) it qualifies as a RMAT, which is defined as a cell therapy, therapeutic tissue engineering product, human cell and tissue product, or any combination product using such therapies or products, with limited exceptions; (2) it is intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition; and (3) preliminary clinical evidence indicates that the product has the potential to address unmet medical needs for such a disease or condition. Like breakthrough therapy designation, RMAT designation provides potential benefits that include more frequent meetings with FDA to discuss the development plan for the product candidate, and eligibility for rolling review and priority review. Products granted RMAT designation may also be eligible for accelerated approval on the basis of a surrogate or intermediate endpoint reasonably likely to predict long-term clinical benefit, or may be able to rely upon data obtained from a meaningful number of sites, including through expansion to additional sites. RMAT designation does not change the standards for product approval, and there is no assurance that such designation will result in expedited review or approval or that the approved indication will not be narrower than the indication covered by the RMAT designation. Additionally, RMAT designation can be revoked if the criteria for eligibility cease to be met as clinical data emerges.

Neurogene has received orphan drug designation for NGN-401 for the treatment of Rett syndrome and for NGN-101 for the treatment of CLN5 Batten disease, and Neurogene may seek orphan drug designation for certain future product candidates, but Neurogene may be unable to obtain such designations or to maintain the benefits associated with orphan drug designation, including market exclusivity, which may cause Neurogene's revenue, if any, to be reduced.

Neurogene has received orphan drug designation from the FDA for NGN-401 for the treatment of Rett syndrome and has also received orphan drug designation from the FDA and European Medicines Agency for NGN-101 for the treatment of CLN5 Batten disease. Although Neurogene may seek orphan product designation for some or all of its other product candidates, Neurogene may never receive such designations. Under the Orphan Drug Act, the FDA may designate a drug or biological product as an orphan drug if it is intended to treat a rare disease or condition, defined as a patient population of fewer than 200,000 in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. Orphan drug designation must be requested before submitting a BLA. In the European Union, the EMA's Committee for Orphan Medicinal Products grants orphan drug designation to promote the development of products that are intended for the diagnosis, prevention, or treatment of a life-threatening or chronically debilitating condition affecting not more than five in 10,000 persons in the European Union. Additionally, designation is granted for products intended for the diagnosis, prevention, or treatment of a life-threatening, seriously debilitating or serious and chronic condition when, without incentives, it is unlikely that sales of the drug in the European Union would be sufficient to justify the necessary investment in developing the drug or biological product or where there is no satisfactory method of diagnosis, prevention, or treatment, or, if such a method exists, the medicine must be of significant benefit to those affected by the condition.

In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages, and application fee waivers. After the FDA grants orphan drug designation, the generic identity of the drug and its potential orphan use are disclosed publicly by the FDA.

In addition, if a product receives the first FDA approval for the indication for which it has orphan designation, the product is entitled to orphan drug exclusivity, which means the FDA may not approve any other application to market the same drug for the same indication for a period of seven years, except in limited circumstances, such as a showing of clinical superiority over the product with orphan exclusivity or where the manufacturer is unable to assure sufficient product quantity for the orphan patient population. Exclusive marketing rights in the United States may also be unavailable if Neurogene or its collaborators seek approval for an indication broader than the orphan designated indication and may be lost if the FDA later determines that the request for designation was materially defective. In the European Union, orphan drug designation entitles a party to financial incentives such as reduction of fees or fee waivers and ten years of market exclusivity following drug or biological product approval. This period may be reduced to six years if the orphan drug designation criteria are no longer met, including where it is shown that the product is sufficiently profitable not to justify maintenance of market exclusivity.

Even with an orphan drug designation for its current and potential future product candidates, Neurogene may not be the first to obtain marketing approval for any particular orphan indication due to the uncertainties associated with developing pharmaceutical products. Further, even if Neurogene obtains orphan drug exclusivity for an existing or future product candidate, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties still can be approved for the same condition even with an orphan drug designation. Even after an orphan drug is approved, the FDA can subsequently approve the same drug with the same active moiety for the same condition if the FDA concludes that the later drug is clinically superior in that it is safer, more effective, or makes a major contribution to patient care. Orphan drug designation neither shortens the development time or regulatory review time of a drug or biologic nor gives the drug or biologic any advantage in the regulatory review or approval process.

Neurogene has received Rare Pediatric Disease designation by the FDA for NGN-401 for the treatment of Rett syndrome and is seeking a Rare Pediatric Disease designation for NGN-101 for the treatment of CLN5 Batten disease. However, Rare Pediatric Disease designation for any of Neurogene's product candidates does not guarantee that the BLA for the product will qualify for a priority review voucher upon approval, and it does not lead to a faster development or regulatory review process, or increase the likelihood that Neurogene's product candidates will receive marketing approval.

Under the Rare Pediatric Disease Priority Review Voucher program, upon the approval of a qualifying BLA for the treatment of a rare pediatric disease, the sponsor of such an application would be eligible for a rare pediatric disease priority review voucher that can be used to obtain priority review for a subsequent BLA or NDA. If a product candidate is designated before September 30, 2024, it is eligible to receive a voucher if it is approved before September 30, 2026. While Neurogene has obtained Rare Pediatric Disease designation for NGN-401 for the treatment of Rett syndrome and is seeking a Rare Pediatric Disease designation for NGN-101 for the treatment of CLN5 Batten disease, it is unlikely that these product candidates will be approved by September 30, 2026. If approval is not obtained by then, Neurogene would not be in a position to obtain a priority review voucher, unless Congress further reauthorizes the program beyond the current sunset date in September 2024. Additionally, designation of a biological product for a rare pediatric disease does not guarantee that a BLA will meet the eligibility criteria for a rare pediatric disease priority review voucher at the time the application is approved. Finally, a Rare Pediatric Disease Designation does not lead to faster development or regulatory review of the product or increase the likelihood that it will receive marketing approval.

General Risk Factors

Neurogene's estimates of market opportunity and forecasts of market growth may prove to be inaccurate, and even if the markets in which Neurogene competes achieve the forecasted growth, its business may not grow at similar rates, or at all.

Neurogene's market opportunity estimates and growth forecasts are subject to significant uncertainty and are based on assumptions and estimates which may not prove to be accurate. Its estimates and forecasts relating to size and expected growth of its target market may prove to be inaccurate. Even if the markets in which Neurogene competes meet its size estimates and growth forecasts, its business may not grow at similar rates, or at all. Neurogene's growth is subject to many factors, including its success in implementing its business strategy, which is subject to many risks and uncertainties.

Neurogene's revenue will be dependent, in part, upon the size of the markets in the territories for which Neurogene gains regulatory approval, the accepted price for the product, the ability to obtain coverage and reimbursement and whether Neurogene owns the commercial rights for that territory. If the number of its addressable patients is not as significant as Neurogene estimates, the indication approved by regulatory authorities is narrower than Neurogene expects or the treatment population is narrowed by competition, physician choice or treatment guidelines, Neurogene may not generate significant revenue from sales of such products, even if approved.

Neurogene may become exposed to costly and damaging liability claims, either when testing a product candidate in the clinical or at the commercial stage, and its product liability insurance may not cover all damages from such claims.

Neurogene is exposed to potential product liability and professional indemnity risks that are inherent in the research, development, manufacturing, marketing, and use of pharmaceutical products. While Neurogene currently has no products that have been approved for commercial sale, the current and future use of a product candidate in clinical trials, and the sale of any approved products in the future, may expose Neurogene to liability claims. These claims may be made by patients that use the product, healthcare providers, pharmaceutical companies, or others selling such product. Any claims against Neurogene, regardless of their merit, could be difficult and costly to defend and could materially and adversely affect the market for its products or any

prospects for commercialization of its products. Although Neurogene believes it currently maintains adequate product liability insurance for NGN-401 and NGN-101 and other product candidates, it is possible that its liabilities could exceed its insurance coverage or that in the future Neurogene may not be able to maintain insurance coverage at a reasonable cost or obtain insurance coverage that will be adequate to satisfy any liability that may arise. If a successful product liability claim or series of claims is brought against Neurogene for uninsured liabilities or in excess of insured liabilities, its assets may not be sufficient to cover such claims and its business operations could be impaired.

Litigation costs and the outcome of litigation could have a material adverse effect on Neurogene's business.

From time to time Neurogene may be subject to litigation claims through the ordinary course of its business operations regarding, but not limited to, employment matters, security of patient and employee personal information, contractual relations with collaborators and intellectual property rights. Litigation to defend ourselves against claims by third parties, or to enforce any rights that Neurogene may have against third parties, may continue to be necessary, which could result in substantial costs and diversion of its resources, causing a material adverse effect on its business, financial condition, results of operations or cash flows.

Neurogene's business could be adversely affected by economic downturns, inflation, increases in interest rates, natural disasters, public health crises such as the COVID-19 pandemic, political crises, geopolitical events, such as conflict between Russia and Ukraine, or other macroeconomic conditions, which could have a material and adverse effect on its results of operations and financial condition.

The global economy, including credit and financial markets, has experienced extreme volatility and disruptions, including, among other things, diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, supply chain shortages, increases in inflation rates, higher interest rates, and uncertainty about economic stability. For example, the COVID-19 pandemic resulted in widespread unemployment, economic slowdown and extreme volatility in the capital markets. The Federal Reserve has raised interest rates multiple times in response to concerns about inflation and it may raise them again. Higher interest rates, coupled with reduced government spending and volatility in financial markets, may increase economic uncertainty and affect consumer spending. Similarly, the ongoing military conflict between Russia and Ukraine and rising tensions with China have created extreme volatility in the global capital markets and may have further global economic consequences, including disruptions of the global supply chain. Any such volatility and disruptions may adversely affect Neurogene's business or the third parties on whom Neurogene relies. If the equity and credit markets deteriorate, including as a result of political unrest or war, it may make any necessary debt or equity financing more costly, more dilutive, or more difficult to obtain in a timely manner or on favorable terms, if at all. Increased inflation rates can adversely affect Neurogene by increasing its costs, including labor and employee benefit costs.

Neurogene may in the future experience disruptions as a result of such macroeconomic conditions, including delays or difficulties in initiating or expanding clinical trials and manufacturing sufficient quantities of materials. Any one or a combination of these events could have a material and adverse effect on Neurogene's results of operations and financial condition.

Risks Related to the Combined Company

If any of the events described in "Risks Related to Neoleukin" or "Risks Related to Neurogene" occur, those events could cause potential benefits of the merger not to be realized.

Following completion of the merger, the combined company will be susceptible to many of the risks described in the sections herein entitled "*Risks Related to Neoleukin*" and "*Risks Related to Neurogene*." To the extent any of the events in the risks described in those sections occur, the potential benefits of the merger may not be realized and the results of operations and financial condition of the combined company could be adversely affected in a material way. This could cause the market price of the combined company's common stock to decline.

The market price of the combined company's common stock is expected to be volatile, and the market price of the common stock may drop following the merger.

The market price of the combined company's common stock following the merger could be subject to significant fluctuations. Some of the factors that may cause the market price of the combined company's common stock to fluctuate include:

- timing and results of clinical trials and preclinical studies of the combined company's product candidates, or those of the combined company's competitors or the combined company's existing or future collaborators;
- failure to meet or exceed financial and development projections the combined company may provide to the public;
- failure to meet or exceed the financial and development projections of the investment community;
- if the combined company does not achieve the perceived benefits of the merger as rapidly or to the extent anticipated by financial or industry analysts;
- announcements of significant acquisitions, strategic collaborations, joint ventures or capital commitments by the combined company or its competitors;
- actions taken by regulatory agencies with respect to the combined company's product candidates, clinical studies, manufacturing process or sales and marketing terms;
- disputes or other developments relating to proprietary rights, including patents, litigation matters, and the combined company's ability to obtain patent protection for its technologies;
- additions or departures of key personnel;
- significant lawsuits, including patent or stockholder litigation;
- if securities or industry analysts do not publish research or reports about the combined company's business, or if they issue adverse or misleading opinions regarding its business and stock;
- changes in the market valuations of similar companies;
- general market or macroeconomic conditions or market conditions in the pharmaceutical and biotechnology sectors;
- sales of securities by the combined company or its securityholders in the future;
- if the combined company fails to raise an adequate amount of capital to fund its operations or continued development of its product candidates;
- trading volume of the combined company's common stock;
- announcements by competitors of new commercial products, clinical progress or lack thereof, significant contracts, commercial relationships or capital commitments;
- adverse publicity relating to precision medicine product candidates, including with respect to other products in such markets;
- the introduction of technological innovations or new therapies that compete with the products and services of the combined company; and
- period-to-period fluctuations in the combined company's financial results.

Moreover, the stock markets in general have experienced substantial volatility that has often been unrelated to the operating performance of individual companies. These broad market fluctuations may also adversely affect the trading price of the combined company's common stock. In addition, a recession, depression or other sustained adverse market event could materially and adversely affect the combined company's business and the

value of its common stock. In the past, following periods of volatility in the market price of a company's securities, stockholders have often instituted class action securities litigation against such companies. Furthermore, market volatility may lead to increased shareholder activism if the combined company experiences a market valuation that activists believe is not reflective of its intrinsic value. Activist campaigns that contest or conflict with the combined company's strategic direction or seek changes in the composition of its board of directors could have an adverse effect on its operating results, financial condition and cash flows.

The combined company may incur losses for the foreseeable future and might never achieve profitability.

The combined company may never become profitable, even if the combined company is able to complete clinical development for one or more product candidates and eventually commercialize such product candidates. The combined company will need to successfully complete significant research, development, testing and regulatory compliance activities that, together with projected general and administrative expenses, is expected to result in substantial increased operating losses for at least the next several years. Even if the combined company does achieve profitability, it may not be able to sustain or increase profitability on a quarterly or annual basis.

Following the merger, the combined company may be unable to integrate successfully the businesses of Neoleukin and Neurogene and realize the anticipated benefits of the merger.

The merger involves the combination of two companies which currently operate as independent companies. Following the merger, the combined company will be required to devote significant management attention and resources to integrating its business practices and operations. The combined company may fail to realize some or all of the anticipated benefits of the merger if the integration process takes longer than expected or is more costly than expected. Potential difficulties the combined company may encounter in the integration process include the following:

- the inability to successfully combine the businesses of Neoleukin and Neurogene in a manner that permits the combined company to achieve the anticipated benefits from the merger, which would result in the anticipated benefits of the merger not being realized partly or wholly in the time frame currently anticipated or at all;
- creation of uniform standards, controls, procedures, policies and information systems; and
- potential unknown liabilities and unforeseen increased expenses, delays or regulatory conditions associated with the merger.

In addition, Neoleukin and Neurogene have operated and, until the completion of the merger, will continue to operate, independently. It is possible that the integration process also could result in the diversion of each company's management's attention, the disruption or interruption of, or the loss of momentum in, each company's ongoing businesses or inconsistencies in standards, controls, procedures and policies, any of which could adversely affect the combined company's ability to maintain its business relationships or the ability to achieve the anticipated benefits of the merger, or could otherwise adversely affect the business and financial results of the combined company.

If the combined company fails to attract and retain management and other key personnel, it may be unable to continue to successfully develop or commercialize its product candidates or otherwise implement its business plan.

The combined company's ability to compete in the highly competitive pharmaceuticals industry depends on its ability to attract and retain highly qualified managerial, scientific, medical, legal, sales and marketing and other personnel. The combined company will be highly dependent on its management and scientific personnel. The loss of the services of any of these individuals could impede, delay, or prevent the successful development of the combined company's product pipeline, completion of its planned clinical trials, commercialization of its

product candidates or in-licensing or acquisition of new assets and could impact negatively its ability to implement successfully its business plan. If the combined company loses the services of any of these individuals, it might not be able to find suitable replacements on a timely basis or at all, and its business could be harmed as a result. The combined company might not be able to attract or retain qualified management and other key personnel in the future due to the intense competition for qualified personnel among biotechnology, pharmaceutical and other businesses.

The combined company will need to raise additional financing in the future to fund its operations, which may not be available to it on favorable terms or at all.

The combined company will require substantial additional funds to conduct the costly and time-consuming clinical efficacy trials necessary to pursue regulatory approval of each potential product candidate and to continue the development of NGN-401 and NGN-101, Neurogene's other product candidates and future product candidates. The combined company's future capital requirements will depend upon a number of factors, including: the number and timing of future product candidates in the pipeline; progress with and results from preclinical testing and clinical trials; the ability to manufacture sufficient drug supplies to complete preclinical and clinical trials; the costs involved in preparing, filing, acquiring, prosecuting, maintaining and enforcing patent and other intellectual property claims; and the time and costs involved in obtaining regulatory approvals and favorable reimbursement or formulary acceptance. Raising additional capital may be costly or difficult to obtain and could, for example, through the sale of common stock or securities convertible or exchangeable into common stock, significantly dilute stockholders' ownership interests or inhibit the combined company's ability to achieve its business objectives. If the combined company raises additional funds through public or private equity offerings, the terms of these securities may include liquidation or other preferences that adversely affect the rights of its common stockholders. In addition, any debt financing may subject the combined company to fixed payment obligations and covenants limiting or restricting its ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If the combined company raises additional capital through marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, the combined company may have to relinquish certain valuable intellectual property or other rights to its product candidates, technologies, future revenue streams or research programs or grant licenses on terms that may not be favorable to it. Even if the combined company were to obtain sufficient funding, there can be no assurance that it will be available on terms acceptable to the combined company or its stockholders.

If Neoleukin's legacy lease obligations are not subleased, assigned, terminated or otherwise addressed or the legacy assets subject to the CVR Agreement are not sold, respectively, in a timely manner, the combined company may have to incur time and resources to take such actions.

In connection with the merger, Neoleukin intends to declare a dividend to each person who, as of immediately prior to the effective time, was a stockholder of record of Neoleukin or had the right to receive Neoleukin's common stock pursuant to an existing Neoleukin pre-funded warrant, of the right to receive one non-transferable CVR for each then outstanding share of Neoleukin common stock, each representing the non-transferable contractual right to receive certain contingent payments from Neoleukin upon the occurrence of certain events within agreed time periods. Holders of options to purchase Neoleukin common stock outstanding immediately prior to the effective time will also receive one CVR for each share of Neoleukin common stock issued upon exercise of such option, subject to certain conditions set forth in the CVR Agreement. See the section entitled "*Agreements Related to the Merger—Contingent Value Rights Agreement*" beginning on page 178 of this proxy statement/prospectus. Further, pursuant to the terms of the CVR Agreement, the holders of Neoleukin common stock, including holders of Neoleukin existing pre-funded warrants and holders of options to purchase Neoleukin common stock outstanding immediately prior to the effective time and exercised after the effective time, if any, prior to the closing, rather than the holders of the combined company's common stock, are the primary recipients of any net proceeds of the disposition of the legacy Neoleukin assets, the mitigation of Neoleukin's legacy lease obligations or receipt of any sales tax refund from the State of Washington based on tax returns filed prior to the effective time, pursuant to the terms of the CVR Agreement. Accordingly, the combined

company may be required to allocate a portion of its funds, time and resources to such activities and not its core programs and the foregoing could be a distraction to the combined company's management and employees. As a result, the combined company's operations and financial condition may be adversely affected.

The combined company will incur additional costs and increased demands upon management as a result of complying with the laws and regulations affecting public companies.

The combined company will incur significant legal, accounting and other expenses as a public company that Neurogene did not incur as a private company, including costs associated with public company reporting obligations under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The combined company's management team will consist of the executive officers of Neurogene prior to the merger. These executive officers and other personnel will need to devote substantial time to complying with public company reporting requirements and compliance with applicable laws and regulations to ensure that the combined company complies with all of these requirements. Any changes the combined company makes to comply with these obligations may not be sufficient to allow it to satisfy its obligations as a public company on a timely basis, or at all. These reporting requirements, rules and regulations, coupled with the increase in potential litigation exposure associated with being a public company, could also make it more difficult for the combined company to attract and retain qualified persons to serve on the board of directors or on board committees or to serve as executive officers, or to obtain certain types of insurance, including directors' and officers' insurance, on acceptable terms.

Upon completion of the merger, failure by the combined company to comply with the initial listing standards of Nasdaq will prevent its stock from being listed on Nasdaq.

Upon completion of the merger, Neoleukin, under the new name "Neurogene Inc.," will be required to meet the initial listing requirements to maintain the listing and continued trading of its shares on Nasdaq. These initial listing requirements are more difficult to achieve than the continued listing requirements that currently apply to Neoleukin. Pursuant to the Merger Agreement, Neoleukin agreed to use its commercially reasonable efforts to cause the shares of Neoleukin common stock being issued in the merger to be approved for listing on Nasdaq at or prior to the effective time of the merger. Based on information currently available to Neoleukin, Neoleukin anticipates that its stock will be unable to meet the $4.00 minimum bid price initial listing requirement at the closing of the merger unless it effects a reverse stock split. The board of directors of Neoleukin, in consultation with the board of directors of Neurogene (assuming the approval by Neoleukin stockholders of Proposal No. 1 (the "Nasdaq Stock Issuance Proposal")) intends to effect a reverse stock split of the shares of Neoleukin common stock at a ratio of between 1: to 1: . However, often times a reverse stock split will not result in a trading price for the affected common stock that is proportional to the ratio of the split. Following the merger, if the combined company is unable to satisfy Nasdaq listing requirements, Nasdaq may notify the combined company that its shares of common stock will not be listed on Nasdaq.

Upon a potential delisting from Nasdaq, if the common stock of the combined company is not then eligible for quotation on another market or exchange, trading of the shares could be conducted in the over-the-counter market or on an electronic bulletin board established for unlisted securities such as the Pink Sheets or the OTC Bulletin Board. In such event, it is likely that there would be significantly less liquidity in the trading of the common stock of the combined company; decreases in institutional and other investor demand for the shares, coverage by securities analysts, market making activity and information available concerning trading prices and volume; and fewer broker dealers willing to execute trades in the common stock of the combined company. Also, it may be difficult for the combined company to raise additional capital if the combined company's common stock is not listed on a major exchange. The occurrence of any of these events could result in a further decline in the market price of the common stock of the combined company and could have a material adverse effect on the combined company.

Once the combined company is no longer a smaller reporting company or otherwise no longer qualifies for applicable exemptions, the combined company will be subject to additional laws and regulations affecting public companies that will increase the combined company's costs and the demands on management and could harm the combined company's operating results and cash flows.

The combined company will be subject to the reporting requirements of the Exchange Act, which requires, among other things, that the combined company file with the SEC annual, quarterly and current reports with respect to the combined company's business and financial condition as well as other disclosure and corporate governance requirements. Neoleukin and Neurogene expects the combined company to still qualify as a "smaller reporting company," as such term is defined in Rule 12b-2 under the Exchange Act, in at least the near term, which will allow the combined company to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation in this proxy statement/prospectus and in the combined company's periodic reports and proxy statements. Once the combined company is no longer a smaller reporting company or otherwise no longer qualifies for this exemption, the combined company will be required to comply with these additional legal and regulatory requirements applicable to public companies and will incur significant legal, accounting and other expenses to do so. If the combined company is not able to comply with the requirements in a timely manner or at all, the combined company's financial condition or the market price of the combined company's common stock may be harmed. For example, if the combined company or its independent auditor identifies deficiencies in the combined company's internal control over financial reporting that are deemed to be material weaknesses, the combined company could face additional costs to remedy those deficiencies, the market price of the combined company's stock could decline or the combined company could be subject to sanctions or investigations by the SEC or other regulatory authorities, any of which would require additional financial and management resources.

If the combined company fails to maintain proper and effective internal controls, its ability to produce accurate financial statements on a timely basis could be impaired.

Provided any securities of the combined company continue to be registered with the SEC and the combined company continues to be listed on Nasdaq, the combined company will be subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act and the rules and regulations of Nasdaq. The Sarbanes-Oxley Act requires, among other things, that the combined company maintain effective disclosure controls and procedures and internal control over financial reporting. The combined company must perform system and process evaluation and testing of its internal control over financial reporting to allow management to report on the effectiveness of its internal controls over financial reporting in its Annual Report on Form 10-K filing for that year, as required by Section 404 of the Sarbanes-Oxley Act. As a private company, Neurogene has never been required to test its internal controls within a specified period. This will require that the combined company incur substantial professional fees and internal costs to expand its accounting and finance functions and that it expends significant management efforts. The combined company may experience difficulty in meeting these reporting requirements in a timely manner. The combined company may discover weaknesses in its system of internal financial and accounting controls and procedures that could result in a material misstatement of its financial statements. The combined company's internal control over financial reporting will not prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected.

If the combined company is not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act, or if it is unable to maintain proper and effective internal controls, the combined company may not be able to produce timely and accurate financial statements. If that were to happen, the market price of its common stock could decline and it could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities.

The unaudited pro forma condensed combined financial information for Neoleukin and Neurogene included in this proxy statement/prospectus are preliminary, and the combined company's actual financial position and operations after the merger may differ materially from the unaudited pro forma financial information included in this proxy statement/prospectus.

The unaudited pro forma financial information for Neoleukin and Neurogene included in this proxy statement/prospectus are presented for illustrative purposes only and are not necessarily indicative of the combined company's actual financial condition or results of operations of future periods, or the financial condition or results of operations that would have been realized had the entities been combined during the period presented. The unaudited pro forma financial information has been derived from the historical financial statements of Neoleukin and Neurogene and adjustments and assumptions have been made regarding the combined company after giving effect to the merger. The information upon which these adjustments and assumptions have been made is preliminary, and these kinds of adjustments and assumptions are difficult to make with accuracy. Moreover, the unaudited pro forma financial information does not reflect all costs that are expected to be incurred by the combined company in connection with the transactions or that have been incurred since the date of such unaudited pro forma financial information. The assumptions used in preparing the unaudited pro forma financial information may not prove to be accurate, and other factors may affect the combined company's financial condition following the merger. The combined company's actual results and financial position after the merger may differ materially and adversely from the unaudited pro forma financial information included in this proxy statement/prospectus. The exchange ratio reflected in this proxy statement/prospectus is preliminary. The final exchange ratio could differ materially from the preliminary exchange ratio used to prepare the pro forma adjustments. For more information see the section entitled "*Unaudited Pro Forma Condensed Combined Financial Information*" beginning on page 325.

The combined company's certificate of incorporation and bylaws, as well as provisions under Delaware law could make an acquisition of the combined company more difficult and may prevent attempts by its stockholders to replace or remove its management.

If the merger is completed, Neoleukin's bylaws and Neoleukin's charter, as amended by the amendments thereto attached to this proxy statement/prospectus as *Annex B*, assuming Proposal Nos. 2, 3 and 4 are approved by Neoleukin stockholders at the Neoleukin special meeting, will become the combined company's bylaws and certificate of incorporation. Provisions that will be included in the combined company's certificate of incorporation and bylaws may discourage, delay or prevent a merger, acquisition or other change in control of the combined company that stockholders may consider favorable, including transactions in which its common stockholders might otherwise receive a premium price for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of the combined company's common stock, thereby depressing the market price of its common stock. In addition, because the combined company's board of directors will be responsible for appointing the members of the combined company's management team, these provisions may frustrate or prevent any attempts by the combined company's stockholders to replace or remove its current management by making it more difficult for stockholders to replace members of the combined company's board of directors. Among other things, these provisions:

- establish a classified board of directors such that all members of the board are not elected at one time;
- allow the authorized number of its directors to be changed only by resolution of its board of directors;
- limit the manner in which stockholders can remove directors from the board;
- establish advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted on at stockholder meetings;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by its stockholders by written consent;
- limit who may call a special meeting of stockholders;

- authorize its board of directors to issue preferred stock without stockholder approval, which could be used to institute a "poison pill" that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by its board of directors; and
- require the approval of the holders of at least 66 2/3% of the votes that all its stockholders would be entitled to cast to amend or repeal certain provisions of its charter or bylaws.

Moreover, because the combined company will be incorporated in Delaware, it is governed by the provisions of Section 203 of the DGCL, which prohibits stockholders owning in excess of 15% of the outstanding combined company voting stock from merging or combining with the combined company. Although Neoleukin and Neurogene believe these provisions collectively will provide for an opportunity to receive higher bids by requiring potential acquirors to negotiate with the combined company's board of directors, they would apply even if the offer may be considered beneficial by some stockholders. In addition, these provisions may frustrate or prevent any attempts by the combined company's stockholders to replace or remove then current management by making it more difficult for stockholders to replace members of the board of directors, which is responsible for appointing the members of management.

The governing documents of the combined company will provide that, unless the combined company consents in writing to the selection of an alternative forum, certain designated courts will be the sole and exclusive forum for certain legal actions between the combined company and its stockholders, which could limit its stockholders' ability to obtain a favorable judicial forum for disputes with the combined company or its directors, officers, employees or agents.

The governing documents of the combined company will provide that, unless it consents in writing to an alternative forum, the Court of Chancery of the State of Delaware is the sole and exclusive forum for state law claims for (i) any derivative action or proceeding brought on its behalf, (ii) any action asserting a claim of or based on a breach of a fiduciary duty owed by any of its current or former directors, officers, or other employees to the combined company or its stockholders, (iii) any action asserting a claim arising pursuant to any provision of the DGCL, the certificate of incorporation or the bylaws, (iv) any action to interpret, apply, enforce or determine the validity of the certificate of incorporation or bylaws, or (v) any action asserting a claim that is governed by the internal affairs doctrine, in each case subject to the Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein, which for purposes of this risk factor refers to herein as the "Delaware Forum Provision." The governing documents of the combined company will further provide that, unless it consents in writing to an alternative forum, the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, which for purposes of this risk factor refers to herein as the "Federal Forum Provision." Neither the Delaware Forum Provision nor the Federal Forum Provision will apply to any causes of action arising the Exchange Act. In addition, any person or entity purchasing or otherwise acquiring any interest in shares of the combined company's capital stock will be deemed to have notice of and consented to the foregoing Delaware Forum Provision and Federal Forum Provision; provided, however, that stockholders cannot and will not be deemed to have waived its compliance with the U.S. federal securities laws and the rules and regulations thereunder.

The Delaware Forum Provision and the Federal Forum Provision may impose additional litigation costs on stockholders of the combined company in pursuing any such claims, particularly if the stockholders do not reside in or near the State of Delaware. Additionally, these forum selection clauses may limit its stockholders' ability to bring a claim in a judicial forum that they find favorable for disputes with the combined company or its directors, officers or employees, which may discourage such lawsuits against the combined company and its directors, officers and employees even though an action, if successful, might benefit its stockholders.

Neoleukin and Neurogene do not anticipate that the combined company will pay any cash dividends in the foreseeable future.

The current expectation is that the combined company will retain its future earnings, if any, to fund the growth of the combined company's business as opposed to paying dividends. As a result, capital appreciation, if any, of the common stock of the combined company will be your sole source of gain, if any, for the foreseeable future.

An active trading market for the combined company's common stock may not develop and its stockholders may not be able to resell their shares of common stock for a profit, if at all.

Prior to the merger, there had been no public market for shares of Neurogene capital stock. An active trading market for the combined company's shares of common stock may never develop or be sustained. If an active market for the combined company's common stock does not develop or is not sustained, it may be difficult for its stockholders to sell their shares at an attractive price or at all.

Future sales of shares by existing stockholders could cause the combined company's stock price to decline.

If existing securityholders of Neoleukin and Neurogene sell, or indicate an intention to sell, substantial amounts of the combined company's common stock in the public market, the trading price of the common stock of the combined company could decline. Based on shares outstanding as of , 2023, after giving effect to the estimated exchange ratio, the shares of Neurogene common stock and the pre-funded warrants to be issued in the Neurogene pre-closing financing and shares expected to be issued upon completion of the merger, the combined company is expected to have outstanding a total of approximately shares of common stock immediately following the completion of the merger. Of the shares of common stock, approximately shares will be available for sale in the public market beginning 180 days after the closing of the merger as a result of the expiration of lock-up agreements between Neoleukin and Neurogene on the one hand and certain securityholders of Neoleukin and Neurogene on the other hand. All other outstanding shares of common stock, other than shares held by affiliates of the combined company, will be freely tradable, without restriction, in the public market immediately following the effective time. In addition, shares of common stock that are subject to outstanding options or warrants of Neurogene will become eligible for sale in the public market to the extent permitted by the provisions of various vesting agreements and Rules 144 and 701 under the Securities Act. If these shares are sold, the trading price of the combined company's common stock could decline.

After completion of the merger, the combined company's executive officers, directors and principal stockholders will have the ability to control or significantly influence all matters submitted to the combined company's stockholders for approval.

Upon the completion of the merger, and giving effect to the issuance of the shares of Neurogene common stock and the pre-funded warrants prior to the closing of the merger pursuant to the Neurogene pre-closing financing, it is anticipated that the combined company's executive officers, directors and principal stockholders will, in the aggregate, beneficially own approximately % of the combined company's outstanding shares of common stock, subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being not less than the Target Parent Net Cash amount and receipt by Neurogene of aggregate proceeds of $95.0 million from the Neurogene pre-closing financing. As a result, if these stockholders were to choose to act together, they would be able to control or significantly influence all matters submitted to the combined company's stockholders for approval, as well as the combined company's management and affairs. For example, these stockholders, if they choose to act together, would control or significantly influence the election of directors and approval of any merger, consolidation or sale of all or substantially all of the combined company's assets. This concentration of voting power could delay or prevent an acquisition of the combined company on terms that other stockholders may desire.

The combined company may be exposed to increased litigation, including stockholder litigation, which could have an adverse effect on the combined company's business and operations.

The combined company may be exposed to increased litigation from stockholders, suppliers and other third parties due to the combination of Neoleukin's business and Neurogene's business following the merger. Such litigation may have an adverse impact on the combined company's business and results of operations or may cause disruptions to the combined company's operations. In addition, in the past, stockholders have initiated class action lawsuits against biotechnology companies following periods of volatility in the market prices of these companies' stock. Such litigation, if instituted against the combined company, could cause the combined company to incur substantial costs and divert management's attention and resources, which could have a material adverse effect on the combined company's business, financial condition and results of operations.

If equity research analysts do not publish research or reports, or publish unfavorable research or reports, about the combined company, its business or its market, its stock price and trading volume could decline.

The trading market for the combined company's common stock will be influenced by the research and reports that equity research analysts publish about it and its business. Equity research analysts may elect to not provide research coverage of the combined company's common stock after the completion of the merger, and such lack of research coverage may adversely affect the market price of its common stock. In the event it does have equity research analyst coverage, the combined company will not have any control over the analysts or the content and opinions included in their reports. The price of the combined company's common stock could decline if one or more equity research analysts downgrade its stock or issue other unfavorable commentary or research. If one or more equity research analysts ceases coverage of the combined company or fails to publish reports on it regularly, demand for its common stock could decrease, which in turn could cause its stock price or trading volume to decline.

The combined company will have broad discretion in the use of the cash and cash equivalents of the combined company and the proceeds from the Neurogene pre-closing financing and may invest or spend the proceeds in ways with which you do not agree and in ways that may not increase the value of your investment.

The combined company will have broad discretion over the use of the cash and cash equivalents of the combined company and the proceeds from the Neurogene pre-closing financing. You may not agree with the combined company's decisions, and its use of the proceeds may not yield any return on your investment. The combined company's failure to apply these resources effectively could compromise its ability to pursue its growth strategy and the combined company might not be able to yield a significant return, if any, on its investment of these net proceeds. You will not have the opportunity to influence its decisions on how to use the combined company's cash resources.

The combined company may be subject to adverse legislative or regulatory tax changes that could negatively impact its financial condition.

The rules dealing with U.S. federal, state and local income taxation are constantly under review by persons involved in the legislative process and by the Internal Revenue Service and the U.S. Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect the combined company or its stockholders. The combined company will assess the impact of various tax reform proposals and modifications to existing tax treaties in all jurisdictions where the combined company has operations to determine the potential effect on its business and any assumptions the combined company will make about its future taxable income. It cannot predict whether any specific proposals will be enacted, the terms of any such proposals or what effect, if any, such proposals would have on its business if they were to be enacted. For example, the United States recently enacted the Inflation Reduction Act of 2022, which implements, among other changes, a 1% excise tax on certain stock buybacks. In addition, beginning in 2022, the Tax Cuts and Jobs Act eliminated the option to deduct research and development expenditures and requires taxpayers to amortize them

generally over five years. The U.S. Congress is considering legislation that would restore the current deductibility of research and development expenditures; however, there is no assurance that the current provision will be repealed or otherwise modified. Such changes, among others, may adversely affect the combined company's effective tax rate, results of operation and general business condition.

The combined company's ability to use net operating loss carryforwards and other tax attributes may be limited, including as a result of the merger.

Under current law, U.S. federal net operating loss carryforwards generated in taxable periods beginning after December 31, 2017, may be carried forward indefinitely, but the deductibility of such net operating loss carryforwards is limited to 80% of taxable income. In addition, under Sections 382 and 383 of the Code, U.S. federal net operating loss carryforwards and other tax attributes may become subject to an annual limitation in the event of certain cumulative changes in ownership. An "ownership change" pursuant to Section 382 of the Code generally occurs if one or more stockholders or groups of stockholders who own at least 5% of a company's stock increase their ownership by more than 50 percentage points over their lowest ownership percentage within a rolling three-year period. The combined company's ability to utilize its net operating loss carryforwards and other tax attributes to offset future taxable income or tax liabilities may be limited as a result of ownership changes, including, as discussed above, in connection with the merger or other transactions. Similar rules may apply under state tax laws. If the combined company earns taxable income, such limitations could result in increased future income tax liability to the combined company, and the combined company's future cash flows could be adversely affected.

Unfavorable global economic conditions could adversely affect the combined company's business, financial condition, results of operations or cash flows.

The combined company's results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. A severe or prolonged economic downturn could result in a variety of risks to the combined company's business, including weakened demand for the combined company's product candidates and the combined company's ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain the combined company's suppliers, possibly resulting in supply disruption, or cause the combined company's customers to delay making payments for its services. Any of the foregoing could harm the combined company's business and the combined company cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact its business.

MARKET PRICE AND DIVIDEND INFORMATION

The Neoleukin common stock is currently listed on The Nasdaq Global Market under the symbol "NLTX."

The closing price of the Neoleukin common stock on July 17, 2023, the last day of trading prior to the announcement of the merger, as reported on The Nasdaq Capital Market, was $0.925 per share.

Because the market price of the Neoleukin common stock is subject to fluctuation, the market value of the shares of the Neoleukin common stock that the Neurogene stockholders will be entitled to receive in the merger may increase or decrease.

Assuming approval of Proposal No. 1 and either or both of Proposal Nos. 2 and 4 and successful application for initial listing with Nasdaq, following the consummation of the merger, the Neoleukin common stock will trade on Nasdaq under Neoleukin's new name, "Neurogene Inc.," and new trading symbol "NGNE."

As of , 2023, the record date for the special meeting, there were approximately registered holders of record of the Neoleukin common stock. As of , 2023, Neurogene had holders of record of Neurogene common stock and holders of record of Neurogene preferred stock. For detailed information regarding the beneficial ownership of certain Neoleukin and Neurogene stockholders, see the sections of this proxy statement/prospectus entitled "Principal Stockholders of Neoleukin" and "Principal Stockholders of Neurogene."

Dividends

Neoleukin has never declared or paid any cash dividends on the Neoleukin common stock and does not anticipate paying cash dividends on the Neoleukin common stock for the foreseeable future, except pursuant to the CVR Agreement if the combined company's board of directors and management elects to make such payments, if any, in cash instead of stock. Notwithstanding the foregoing, any determination to pay cash dividends subsequent to the merger will be at the discretion of the combined organization's then-current board of directors and will depend upon a number of factors, including the combined organization's results of operations, financial condition, future prospects, contractual restrictions, restrictions imposed by applicable law and other factors the then-current board of directors deems relevant.

Neurogene has never paid or declared any cash dividends on the Neurogene capital stock. If the merger does not occur, Neurogene does not anticipate paying any cash dividends on the Neurogene capital stock in the foreseeable future, and Neurogene intends to retain all available funds and any future earnings to fund the development and expansion of its business. Any future determination to pay dividends on Neurogene stock if the merger is not completed will be at the discretion of the Neurogene board of directors and will depend upon a number of factors, including its results of operations, financial condition, future prospects, contractual restrictions, and restrictions imposed by applicable laws and other factors the Neurogene board of directors deems relevant.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This proxy statement/prospectus contains or incorporates statements that constitute forward-looking statements within the meaning of the federal securities laws in relation to Neoleukin, Neurogene, the merger and the other proposed transactions contemplated thereby. Any express or implied statements that do not relate to historical or current facts or matters are forward-looking statements. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. These forward-looking statements include, but are not limited to, express or implied statements regarding Neoleukin's or Neurogene's expectations, hopes, beliefs, intentions or strategies regarding the future. In some cases, you can identify forward-looking statements by terminology such as "may," "might," "will," "could," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "projects," "seeks," "target," "endeavor," "possible," "potential," "continue," "contemplate" or the negative of these terms or other comparable terminology, but the absence of these words does not mean that a statement is not forward-looking. These forward-looking statements are based on current expectations and beliefs concerning future developments and their potential effects. There can be no assurance that future developments affecting Neoleukin, Neurogene or the proposed transaction will be those that have been anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond Neoleukin's or Neurogene's control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. In addition to other factors and matters contained in or incorporated by reference in this document, Neoleukin and Neurogene believe the following factors could cause actual results to differ materially from those discussed in the forward-looking statements:

- the risk that the conditions to the closing of the transaction are not satisfied, including the failure to obtain stockholder approval for the transaction;
- the timing, receipt and terms and conditions of any required governmental or regulatory approvals of the merger that could cause the parties to abandon the merger;
- Neoleukin's and Neurogene's ability to meet expectations regarding the timing and completion of the merger;
- the risk that the Neurogene pre-closing financing results in aggregate proceeds of less than $95.0 million or is not completed in a timely manner or at all;
- uncertainties as to the timing and costs of the consummation of the transaction and the ability of each of Neoleukin and Neurogene to consummate the transaction, including the Neurogene pre-closing financing;
- risks related to Neoleukin's continued listing on the Nasdaq Capital Market until closing of the proposed transaction;
- risks related to the ability of the combined company to qualify for listing on the Nasdaq Capital Market;
- expectations regarding the strategies, prospects, plans, expectations and objectives of management of Neoleukin or Neurogene for future operations of the combined company following the closing of the merger;
- the ability of the combined company to recognize the benefits that may be derived from the merger, including the commercial or market opportunity of the product candidates of Neurogene and the combined company;
- the ability of Neoleukin or the combined company to outlicense or sell any legacy assets of Neoleukin and generate value for the holders of the CVRs;
- the ability of Neoleukin or the combined company to find a suitable assignee or sublicensee for Neoleukin's leased premises, or to otherwise avoid the existing obligations under the lease agreements, to the benefit of the holders of the CVRs;

- risks related to Neoleukin's and Neurogene's ability to correctly estimate their respective operating expenses and expenses associated with the transaction, uncertainties regarding the impact any delay in the closing would have on the anticipated cash resources of the combined company upon closing and other events and unanticipated spending and costs that could reduce the combined company's cash resources;
- the occurrence of any event, change or other circumstance or condition that could give rise to the termination of the Merger Agreement;
- the fact that under the terms of the Merger Agreement, Neoleukin is restrained from soliciting other Acquisition Proposals during the pendency of the merger, except in certain circumstances;
- the effect of the announcement or pendency of the merger on Neoleukin's or Neurogene's business relationships, operating results and business generally, including disruption of Neoleukin's and Neurogene's management's attention from ongoing business operations due to the merger and potential adverse reactions or changes to business relationships resulting from the announcement or completion of the transaction;
- the effect of the announcement or pendency of the merger on Neoleukin's stock price;
- the risk that the Merger Agreement may be terminated in circumstances that require Neoleukin to pay a termination fee;
- the outcome of any legal proceedings that may be instituted against Neoleukin, Neurogene or any of their respective directors or officers related to the Merger Agreement or the transactions contemplated thereby;
- the ability of Neoleukin or Neurogene to protect their respective intellectual property rights;
- competitive responses to the merger;
- legislative, regulatory, political and economic developments beyond the parties' control;
- the initiation, timing and success of clinical trials for Neurogene's product candidates;
- success in retaining, or changes required in, Neoleukin's and Neurogene's officers, key employees or directors;
- Neoleukin's public securities' potential liquidity and trading;
- regulatory actions with respect to Neoleukin's and Neurogene's product candidates or their respective competitors' products and product candidates;
- Neurogene's ability to manufacture its product candidates in conformity with the FDA's requirements and to scale up manufacturing of its product candidates to commercial scale, if approved;
- Neurogene's reliance on third-party contract development and manufacturer organizations to manufacture and supply product candidates;
- Neurogene's ability to successfully commercialize product candidates, if approved, and the rate and degree of market acceptance of such product candidates; and
- developments and projections relating to Neoleukin's and Neurogene's competitors or industry.

Should one or more of these risks or uncertainties materialize, or should any of Neoleukin's or Neurogene's assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. There may be additional risks that Neoleukin considers immaterial or which are unknown. You are urged to carefully review the disclosures Neoleukin and Neurogene make concerning these risks and other factors that may affect Neoleukin's and Neurogene's business and operating results under the section entitled "*Risk Factors*" beginning on page 28 of this proxy statement/prospectus. Additional factors that could

cause actual results to differ materially from those expressed in the forward-looking statements are discussed in reports filed with the SEC by Neoleukin and incorporated by reference herein. Please see the section entitled "*Where You Can Find More Information*" beginning on page 362 of this proxy statement/prospectus. There can be no assurance that the merger will be completed, or if it is completed, that it will be completed within the anticipated time period or that the expected benefits of the merger will be realized.

If any of these risks or uncertainties materialize or any of these assumptions prove incorrect, the results of Neoleukin, Neurogene or the combined company could differ materially from the forward-looking statements. Any public statements or disclosures by Neoleukin and Neurogene following this proxy statement/prospectus that modify or impact any of the forward-looking statements contained in this proxy statement/prospectus will be deemed to modify or supersede such statements in this proxy statement/prospectus. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this document and are qualified in their entirety by reference to the cautionary statements herein. Neoleukin and Neurogene do not intend, and undertake no obligation, to update any forward-looking information to reflect events or circumstances after the date of this document or to reflect the occurrence of unanticipated events, unless required by law to do so.

THE SPECIAL MEETING OF NEOLEUKIN STOCKHOLDERS

Date, Time and Place

The Neoleukin special meeting will be held on , 2023, commencing at Pacific Time, unless postponed or adjourned to a later date. The Neoleukin special meeting will be held entirely online. Neoleukin is sending this proxy statement/prospectus to its stockholders in connection with the solicitation of proxies by Neoleukin's board of directors for use at the Neoleukin special meeting and any adjournments or postponements of the Neoleukin special meeting. This proxy statement/prospectus is first being furnished to Neoleukin stockholders on or about , 2023.

Purposes of the Neoleukin Special Meeting

The purposes of the Neoleukin special meeting are:

1. To approve (i) the issuance of shares of common stock and pre-funded warrants of Neoleukin including shares of common stock that will be issued on exercise of such pre-funded warrants, which will represent more than 20% of the shares of Neoleukin common stock outstanding immediately prior to the merger, to stockholders of Neurogene, pursuant to the terms of the Merger Agreement, a copy of which is attached as *Annex A* to the accompanying proxy statement/prospectus, and (ii) the change of control of Neoleukin resulting from the merger, pursuant to Nasdaq Listing Rules 5635(a) and 5635(b), respectively;
2. To approve an amendment to Neoleukin's charter to effect a reverse stock split of Neoleukin's issued and outstanding common stock at a ratio in the range between 1: to 1: , inclusive, with the final ratio and effectiveness of such amendment and the abandonment of such amendment to be mutually agreed by the Neoleukin board of directors and the Neurogene board of directors prior to the effective time or, if the Nasdaq Stock Issuance Proposal is not approved by Neoleukin stockholders, determined solely by the Neoleukin board of directors, in the form attached as *Annex B* to the accompanying proxy statement/prospectus;
3. To approve an amendment to Neoleukin's charter to provide for the exculpation of officers from personal liability for certain breaches of the duty of care, in the form attached as *Annex B* to the accompanying proxy statement/prospectus;
4. To approve an amendment to Neoleukin's charter to increase the number of authorized shares of Neoleukin common stock from 100,000,000 shares to shares, in the form attached as *Annex B* to the accompanying proxy statement/prospectus;
5. To approve the Neurogene Inc. 2023 Equity Incentive Plan, in the form attached as *Annex C* to the accompanying proxy statement/prospectus;
6. To approve the Neurogene Inc. 2023 Employee Stock Purchase Plan, in the form attached as *Annex D* to the accompanying proxy statement/prospectus;
7. To approve an adjournment of the Neoleukin special meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of the Nasdaq Stock Issuance Proposal, Proposal No. 2 (the "Reverse Stock Split Proposal") and/or Proposal No. 4 the Authorized Share Increase Proposal; and
8. To transact such other business as may properly come before the stockholders at the Neoleukin special meeting or any adjournment or postponement thereof.

The approval of Proposal No. 1 is a condition to completion of the merger**,** and the approval of either or both of Proposal Nos. 2 and 4 will be required to have an adequate number of authorized but unissued shares of Neoleukin common stock to complete the merger. The issuance of Neoleukin common stock in connection with the merger and the change of control resulting from the merger will not take place unless Proposal No. 1 is approved by Neoleukin stockholders and the merger is consummated. The amendment to the Neoleukin charter to effect a reverse stock split of Neoleukin's issued and outstanding common stock will not take place unless

Proposal No. 2 is approved by the requisite Neoleukin stockholders. The amendment to the Neoleukin charter to effect an increase in the number of authorized shares of Neoleukin common stock will not take place unless Proposal No. 4 is approved by the requisite Neoleukin stockholders.

Recommendation of Neoleukin's Board of Directors

- Neoleukin's board of directors has determined and believes that the issuance of shares of Neoleukin's common stock and pre-funded warrants, including the shares of common stock to be issued on exercise of such warrants, pursuant to the Merger Agreement is fair to, in the best interests of, and advisable to, Neoleukin and its stockholders and has approved such proposal. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" the Nasdaq Stock Issuance Proposal as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes that it is fair to, in the best interests of, and advisable to, Neoleukin and its stockholders to approve the amendment to Neoleukin's charter to effect the reverse stock split, as described in this proxy statement/prospectus. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" the Reverse Stock Split Proposal as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes that it is advisable to, and in the best interests of, Neoleukin and its stockholders to approve the amendment to Neoleukin's charter to provide for the exculpation of officers from personal liability for certain breaches of the duty of care, as described in this proxy statement/prospectus. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" Proposal No. 3 (the "Officer Exculpation Proposal") as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes that it is fair to, in the best interests of, and advisable to, Neoleukin and its stockholders to approve the amendment to Neoleukin's charter to increase the number of authorized shares of Neoleukin common stock from 100,000,000 to , as described in this proxy statement/prospectus. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" the Authorized Share Increase Proposal as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes it is fair to, in the best interests of and advisable to, Neoleukin and its stockholders to approve the 2023 Neurogene Inc. Equity Incentive Plan. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" Proposal No. 5 (the "EIP Proposal") as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes it is fair to, in the best interests of and advisable to, Neoleukin and its stockholders to approve the 2023 Neurogene Inc. Employee Stock Purchase Plan. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" Proposal No. 6 (the "ESPP Proposal") as described in this proxy statement/prospectus.
- Neoleukin's board of directors has determined and believes that adjourning the Neoleukin special meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of the Nasdaq Stock Issuance Proposal, the Reverse Stock Split Proposal and/or the Authorized Share Increase Proposal is fair to, in the best interests of, and advisable to, Neoleukin and its stockholders and has approved and adopted the proposal. Neoleukin's board of directors unanimously recommends that Neoleukin stockholders vote "**FOR**" Proposal No. 7 (the "Adjournment Proposal"), if necessary, as described in this proxy statement/prospectus.

Record Date and Voting Power

Only holders of record of Neoleukin common stock at the close of business on the record date of , 2023, are entitled to notice of, and to vote at, the Neoleukin special meeting. At the close of business on the

record date, there were registered holders of record of Neoleukin common stock and there were shares of Neoleukin common stock issued and outstanding. Each share of Neoleukin common stock entitles the holder thereof to one vote on each matter submitted for stockholder approval.

Voting and Revocation of Proxies

The proxy accompanying this proxy statement/prospectus is solicited on behalf of Neoleukin's board of directors for use at the Neoleukin special meeting.

If, as of the record date referred to above, your shares were registered directly in your name with the transfer agent for Neoleukin common stock, Equiniti Trust Company, LLC, then you are a stockholder of record.

Whether or not you plan to attend the Neoleukin special meeting online, Neoleukin urges you to fill out and return the proxy card or vote by proxy over the telephone or on the internet as instructed below to ensure your vote is counted.

The procedures for voting are as follows:

If you are a stockholder of record, you may vote at the Neoleukin special meeting. Alternatively, you may vote by proxy by using the accompanying proxy card, over the internet or by telephone. Whether or not you plan to attend the Neoleukin special meeting, Neoleukin encourages you to vote by proxy to ensure your vote is counted. Even if you have submitted a proxy before the Neoleukin special meeting, you may still attend the Neoleukin special meeting and vote. In such case, your previously submitted proxy will be disregarded.

- To vote at the Neoleukin special meeting, attend the Neoleukin special meeting online and follow the instructions posted at *www.virtualshareholdermeeting.com/NLTX2023SM*. Note that if you hold shares of Neoleukin common stock through more than one account, you may receive proxy cards for each account with different control numbers. To vote your shares at the Neoleukin special meeting you will need to use a control number to log in to the meeting, and only the shares of Neoleukin common stock associated with the control number you use to log in will be voted. If you want to vote shares held under a different control number, you will need to log in again with that control number.
    - To vote using the proxy card, simply complete, sign and date the accompanying proxy card and return it promptly in the envelope provided. If you return your signed proxy card before the Neoleukin special meeting, Neoleukin will vote your shares in accordance with the proxy card.
    - To vote by proxy over the internet, follow the instructions provided on the proxy card.
    - To vote by telephone, you may vote by proxy by calling the toll-free number found on the proxy card.

If you are a beneficial owner of shares registered in the name of your broker, bank or other agent, you should have received a voting instruction card and voting instructions with these proxy materials from that organization rather than from Neoleukin. Simply complete and mail the voting instruction card to ensure that your vote is counted. To vote at the Neoleukin special meeting, you must obtain a valid proxy from your broker, bank or other agent. Follow the instructions from your broker, bank or other agent included with these proxy materials, or contact your broker, bank or other agent to request a proxy form.

Neoleukin provides internet proxy voting to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your internet access, such as usage charges from internet access providers and telephone companies.

If you hold shares beneficially in street name and do not provide your broker or other agent with voting instructions, your shares may constitute "broker non-votes." A "broker non-vote" occurs when shares held by a

broker that are represented at the meeting are not voted with respect to a particular proposal because the broker has not received voting instructions from its client(s) with respect to such shares on how to vote and does not have or did not exercise discretionary authority to vote on the matter. Your broker, fiduciary or custodian will only be able to vote your shares with respect to proposals considered to be "routine." Your broker, fiduciary or custodian is not entitled to vote your shares with respect to "non-routine" proposals, which we refer to as a "broker non-vote." Whether a proposal is considered routine or non-routine is subject to stock exchange rules and final determination by the stock exchange. Even with respect to routine matters, some brokers are choosing not to exercise discretionary voting authority. If a Neoleukin stockholder does not return voting instructions to their broker on how to vote their shares of Neoleukin common stock, such broker may be prevented from voting, or may otherwise choose not to vote, such shares held by such broker, resulting in broker non-votes with respect to such shares. To make sure that your vote is counted, you should instruct your broker to vote your shares of Neoleukin common stock, following the procedures provided by your broker.

All properly executed proxies that are not revoked will be voted at the Neoleukin special meeting and at any adjournments or postponements of the Neoleukin special meeting in accordance with the instructions contained in the proxy. **If a holder of Neoleukin common stock executes and returns a proxy and does not specify otherwise, the shares represented by that proxy will be voted "FOR" all of the proposals in accordance with the recommendation of Neoleukin's board of directors.**

If you are a stockholder of record of Neoleukin and you have not executed a support agreement, you may change your vote at any time before your proxy is voted at the Neoleukin special meeting in any one of the following ways:

- You may submit another properly completed proxy with a later date by mail or via the internet.
- You can provide your proxy instructions via telephone at a later date.
- You may send a written notice that you are revoking your proxy over the internet, following the instructions provided on your proxy card.
- You may attend the Neoleukin special meeting online and vote during the meeting by following the instructions at *www.virtualshareholdermeeting.com/NLTX2023SM*. Simply attending the Neoleukin special meeting will not, by itself, revoke your proxy and/or change your vote. In addition, if you hold shares of Neoleukin common stock through more than one account, you may receive proxy cards for each account with different control numbers. To vote your shares at the Neoleukin special meeting you will need to use a control number to log in to the meeting, and only the shares of Neoleukin common stock associated with the control number you use to log in will be voted. If you want to vote shares held under a different control number, you will need to log in again with that control number.

If your shares are held by your broker, bank or other agent, you should follow the instructions provided by them.

Required Vote

The presence at the Neoleukin special meeting of the holders of a majority of the shares of Neoleukin common stock outstanding and entitled to vote at the Neoleukin special meeting is necessary to constitute a quorum at the meeting. Abstentions and broker non-votes, if any, will be counted towards the presence of a quorum. The affirmative vote of a majority of the votes properly cast by the holders of Neoleukin common stock, assuming a quorum is present, is required for approval of Proposal Nos. 1, 2, 4, 5, 6 and 7. The affirmative vote of at least 66 2/3% of the voting power of all of the outstanding shares of Neoleukin common stock entitled to vote at the Neoleukin special meeting is required for approval of Proposal No. 3. The approval of Proposal No. 1 is a condition to completion of the merger, and approval of either or both of Proposal Nos. 2 and 4 will be required to have an adequate number of authorized but unissued shares of Neoleukin common stock to complete the merger. Therefore, the merger cannot be consummated without the approval of Proposal No. 1 and either or

both of Proposal Nos. 2 and 4. The issuance of Neoleukin common stock in connection with the merger and the change of control of Neoleukin resulting from the merger will not take place unless Proposal No. 1 and either or both of Proposal Nos. 2 and 4 are approved by Neoleukin stockholders and the reverse stock split and/or the authorized share increase is effected and the merger is consummated. The amendment to Neoleukin's charter to effect a reverse stock split of Neoleukin's issued and outstanding common stock proposed at the special meeting will not take place unless Proposal No. 2 is approved by the requisite Neoleukin stockholders. The amendment to Neoleukin's charter to increase the number of authorized shares of common stock will not take place unless Proposal No. 4 is approved by the requisite Neoleukin stockholders. Neoleukin may still elect to proceed with the reverse stock split or the authorized share increase if Proposal No. 2 or Proposal No. 4, respectively, is approved by Neoleukin stockholders even if Proposal No. 1 is not approved or, even if approved, if the merger is not consummated.

Votes will be counted by the inspector of election appointed for the meeting, who will separately count "FOR" and "AGAINST" votes, abstentions and broker non-votes. Broker non-votes, if any, will be treated as shares that are present at the Neoleukin special meeting for purposes of determining whether a quorum exists but will not have any effect for the purpose of voting on Proposal Nos. 1 (Nasdaq Stock Issuance Proposal), 2 (Reverse Stock Split Proposal), 4 (Authorized Share Increase Proposal), 5 (EIP Proposal), 6 (ESPP Proposal) and 7 (Adjournment Proposal). Broker non-votes, if any, will have the same effect as "AGAINST" votes for Proposal No. 3 (Officer Exculpation Proposal).

As of August 1, 2023, the directors and executive officers of Neoleukin owned or controlled less than 1% of the outstanding shares of Neoleukin common stock entitled to vote at the Neoleukin special meeting. As of August 1, 2023, the Neoleukin stockholders that are party to a support agreement, including the directors and certain executive officers of Neoleukin, owned an aggregate number of shares of Neoleukin common stock representing approximately 21% of the outstanding shares of Neoleukin common stock. Each stockholder that entered into a support agreement, including the directors and certain executive officers of Neoleukin, has agreed to vote all shares of Neoleukin common stock owned by him or her as of the record date in favor of the adoption of the Merger Agreement and the approval of the merger and related transactions contemplated by the Merger Agreement and against any competing "Acquisition Proposal" (as defined below).

Solicitation of Proxies

In addition to solicitation by mail, the directors, officers, employees and agents of Neoleukin may solicit proxies from Neoleukin stockholders by personal interview, telephone, email, fax or otherwise. Neoleukin and Neurogene will share equally the costs of printing and filing this proxy statement/prospectus and proxy card. Arrangements will also be made with brokerage firms and other custodians, nominees and fiduciaries who are record holders of Neoleukin common stock for the forwarding of solicitation materials to the beneficial owners of Neoleukin common stock. Neoleukin will reimburse these brokers, custodians, nominees and fiduciaries for the reasonable out of pocket expenses they incur in connection with the forwarding of solicitation materials. Neoleukin has retained Morrow Sodali LLC ("Morrow Sodali") to assist it in soliciting proxies using the means referred to above. Neoleukin will pay the fees of Morrow Sodali, which Neoleukin expects to be up to $20,000, plus reimbursement of out-of-pocket expenses.

Other Matters

As of the date of this proxy statement/prospectus, Neoleukin's board of directors does not know of any business to be presented at the Neoleukin special meeting other than as set forth in the notice accompanying this proxy statement/prospectus. If any other matters should properly come before the Neoleukin special meeting, it is intended that the shares represented by proxies will be voted with respect to such matters in accordance with the judgment of the persons voting the proxies.

THE MERGER

This section and the section entitled "The Merger Agreement" beginning on page 152 of this proxy statement/prospectus describe the material aspects of the merger and the Merger Agreement. While Neoleukin and Neurogene believe that this description covers the material terms of the merger and the Merger Agreement, it may not contain all of the information that is important to you. You should read carefully this entire proxy statement/prospectus for a more complete understanding of the merger and the Merger Agreement and the other documents to which you are referred in this proxy statement/prospectus. See the section entitled "Where You Can Find More Information" beginning on page 362 of this proxy statement/prospectus.

Background of the Merger

The following chronology is a summary description of the background of the negotiations and the proposed merger and does not purport to catalogue every conversation among representatives of Neoleukin, Neurogene and other parties. In addition to formal Neoleukin board of directors and Transaction Committee meetings, Neoleukin management (including Donna Cochener, Interim Chief Executive Officer and General Counsel, and Sean Smith, Interim Chief Financial Officer) had informal discussions with the Neoleukin board of directors and Transaction Committee members throughout the process.

Prior to November 2022, Neoleukin was a biopharmaceutical company creating next generation immunotherapies for cancer, inflammation, and autoimmunity using *de novo* protein design whose lead product candidate was NL-201. During this period, and in furtherance of this strategy, the Neoleukin board of directors and Neoleukin management would, from time to time, review and discuss Neoleukin's business, financial condition, operations and strategic priorities and consider various strategic business initiatives intended to strengthen Neoleukin's business and enhance stockholder value.

On November 14, 2022, following a decision by the Neoleukin board of directors regarding its strategic direction, Neoleukin announced its decision to discontinue development of NL-201 and wind down the related Phase 1 clinical trial then underway, and to instead focus on advancing next-generation *de novo* protein therapeutics based on Neoleukin's expertise in designing and testing novel cytokine mimetics and experience with advanced machine learning in *de novo* protein design. In addition, the Neoleukin board of directors approved a restructuring plan, including a reduction in Neoleukin's workforce of approximately 40%.

At a meeting of the Neoleukin board of directors held on November 19, 2022, also attended by members of Neoleukin's senior management and representatives of Fenwick & West LLP ("Fenwick"), Neoleukin's outside legal counsel, Neoleukin's senior management presented the Neoleukin board of directors with an update on the restructuring, including the effect on employee retention and morale, as well as information regarding certain initial inbound interest that Neoleukin's senior management had received from potential acquirers seeking to have exploratory conversations about the possibility of a partnership or other strategic transaction. None of those conversations progressed to the point of providing a proposed transaction structure or suggested valuation for Neoleukin or any of its assets.

At a meeting of the Neoleukin board of directors held on December 1, 2022, also attended by members of Neoleukin's senior management and representatives of Fenwick, the Neoleukin board of directors discussed structuring a process to evaluate the Company's strategic alternatives and initiated a process to select a financial advisor to assist management in its review of strategic alternatives, including identifying potential counterparties for a possible strategic transaction.

At a meeting of the Neoleukin board of directors held on December 17, 2022, also attended by members of Neoleukin's senior management and representatives of Fenwick, the Neoleukin board of directors approved the formation of a transaction committee of the Neoleukin board of directors (the "Transaction Committee") to review strategic alternatives for the purpose of evaluating a potential acquisition, asset sale, reverse merger, business combination or other transaction. The Neoleukin board of directors appointed M. Cantey Boyd, Erin

Lavelle and Sarah Noonberg as the initial members of the Transaction Committee based on its determination that these directors each had expertise that would be useful in connection with a review of potential strategic alternatives, and were each disinterested with respect to a potential transaction and free of any relationship that, in the opinion of the Neoleukin board of directors, would interfere with their exercise of independent judgment in carrying out their responsibility in considering and evaluating a potential strategic transaction. In addition, at this meeting, the Neoleukin board of directors discussed Neoleukin's business plans were it to remain a standalone company.

Following its formation, the Transaction Committee received presentations from representatives of Leerink Partners LLC ("Leerink Partners") and two other potential financial advisors. On January 20, 2023, the Transaction Committee, with the participation of other members of the Neoleukin board of directors, determined to engage Leerink Partners to act as its financial advisor in connection with the exploration of strategic alternatives on the financial terms described to the Transaction Committee, and authorized management to finalize the terms of the engagement letter with Leerink Partners. The Neoleukin board of directors selected Leerink Partners as its financial advisor based on Leerink Partners' qualifications, reputation, experience and expertise in the biopharmaceutical industry, its knowledge of and involvement in recent transactions in the biopharmaceutical industry and its familiarity with Neoleukin and its business. The Neoleukin board of directors also took into account Leerink Partners' status as an internationally recognized investment banking firm that has substantial experience in transactions similar to those that the Transaction Committee would potentially be considering. Between January 20 and 23, 2023, the Neoleukin board of directors reviewed and discussed the terms of the engagement letter by email and subsequently approved entering into the engagement letter in a unanimous written consent of the Board effective January 23, 2023. Neoleukin and Leerink Partners executed this engagement letter on January 23, 2023, following the Neoleukin board of director's approval.

From January 13, 2023 to February 7, 2023, the members of the Transaction Committee met four times along with members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, to discuss the strategic outreach process. The Transaction Committee considered an initial list of 59 pharmaceutical companies that it believed and Leerink Partners believed might be interested in an acquisition of Neoleukin as a going concern, including the ongoing research and development work and intellectual property assets held by Neoleukin, and directed Leerink Partners to contact 56 of these parties to determine their interest in a potential strategic transaction with Neoleukin. From January 23, 2023 to January 25, 2023, Leerink contacted each of these parties. From February 1 to February 21, 2023, Neoleukin executed confidentiality agreements with 11 of these parties (each of which included a 12-month standstill provision that would expire upon Neoleukin's entry into an agreement providing for a change in control transaction and similar events and none of which included a "don't ask, don't waive" provision), and from February 7, 2023 to March 2, 2023, Neoleukin had meetings with nine of these parties.

On February 7, 2023, the Transaction Committee held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners. Representatives of Leerink Partners reviewed the status of outreach to potential counterparties, including the potential counterparties that had been contacted. At that point, nine potential counterparties had scheduled or were scheduling management presentations with Neoleukin or meetings with Leerink Partners, another three were negotiating confidentiality agreements, 10 were reviewing non-confidential materials, 11 had been unresponsive to outreach, seven were viewed as unlikely to demonstrate interest in proceeding in the process based on meetings with Leerink Partners and 16 had informed representatives of Leerink Partners that they had determined not to proceed in the process.

On February 14, 2023, the Transaction Committee held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners. Representatives of Leerink Partners reviewed the status of outreach to potential counterparties.

From time to time over the course of February 2023, the Transaction Committee and members of Neoleukin's senior management, with input from Leerink Partners, considered the advisability of an outreach to

potential reverse merger counterparties and discussed criteria that would be used to evaluate any potential reverse merger counterparties, which included the following non-exhaustive criteria: the stage of development of the counterparty's product candidates; the attractiveness of the counterparty's technology; the depth of its product candidate development pipeline; the quality of any clinical data generated to date and the implications of that data for potential success for future studies and/or potential regulatory approval; the quality of management, board and investor base; potential upcoming value inflection milestones including within the anticipated cash runway period following the closing of a transaction; readiness to be a U.S. publicly traded company; anticipated time to commercialization; commercial opportunity; the strength of its intellectual property position and length of exclusivity; insider and potential new investor support for capitalizing the counterparty in a concurrent financing; and the proposed relative valuations and pro forma ownership splits of the combined company's equity (collectively, the "Criteria"). Neoleukin applied the Criteria subjectively to potential counterparties on a holistic basis in considering their relative potential strengths and weaknesses.

At a meeting of the Neoleukin board of directors held on February 24, 2023, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, Fenwick provided an overview of legal considerations in connection with a potential transaction, including the directors' fiduciary duties under Delaware law in the context of a strategic transaction, the management of any actual or potential conflicts, and the transaction process. Representatives of Leerink Partners reviewed the status of outreach to potential counterparties. At that point, of the 56 potential strategic parties that had been contacted, four had met with Neoleukin senior management and had been granted access to Neoleukin's virtual data room, another six had scheduled or were scheduling management presentations with Neoleukin or meetings with Leerink Partners, 21 were viewed as unlikely to demonstrate interest in proceeding in the process based on lack of engagement and expressed interest and 25 had informed representatives of Leerink Partners that they had determined not to proceed in the process. Representatives of Leerink Partners also provided an overview of reverse merger transactions, including the key terms of such transactions and a list of 53 potential reverse merger counterparties (all of which were privately held biopharmaceutical companies and none of which were included in the initial outreach to the 56 potential strategic parties). Following discussion, the Neoleukin board of directors directed Neoleukin's senior management and representatives of Leerink Partners to develop a process to evaluate potential reverse merger transactions and directed Leerink Partners to contact 13 potential reverse merger counterparties selected by the Transaction Committee in accordance with the Criteria.

Between February 24, 2023, and February 28, 2023, the Transaction Committee identified three additional potential reverse merger counterparties in accordance with the Criteria and directed Leerink Partners to contact them.

At a meeting of the Neoleukin board of directors held on March 5, 2023, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, representatives of Leerink Partners provided an update on the outreach to potential strategic acquirers, and informed the Neoleukin board of directors that none of the potential strategic acquirers that had been contacted by Leerink Partners and requested to make a proposal had made any proposal to acquire Neoleukin or for an alternative strategic transaction, and that of the 56 potential strategic acquirors that had been contacted, 30 had informed representatives of Leerink Partners that they had determined not to proceed in the process and the remaining 26 companies were viewed as unlikely to demonstrate interest in proceeding in the process based on lack of engagement and expressed interest. Representatives of Leerink Partners then discussed the process by which Leerink Partners, together with Neoleukin management and the Transaction Committee, could identify privately held companies that Neoleukin could evaluate as potential counterparties in a reverse merger process and discussed certain inbound interest that Leerink Partners had received from other potential reverse merger counterparties. Representatives of Leerink Partners then reviewed the current market conditions for such a transaction, and the potential process for a transaction, and provided an update on the status of the outreach to the 16 potential reverse merger counterparties selected by the Transaction Committee to prioritize. Following discussion, the Neoleukin board of directors determined that it would be in the best interests of the stockholders to prioritize a reverse merger process.

At a meeting of the Neoleukin board of directors held on March 6, 2023, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, the Neoleukin board of directors approved a second restructuring plan to further reduce the Company's operations to preserve financial resources, resulting in a reduction of the Company's workforce by approximately 70% and a re-prioritization of the Company's focus to seek strategic alternatives to maximize shareholder value rather than the development of drug candidates. In connection with the restructuring plan, on March 8, 2023, Dr. Drachman entered into an agreement with Neoleukin to resign from his role as President, Chief Executive Officer, principal executive and financial officer and director of the Company, all effective March 31, 2023. In addition, the Neoleukin board of directors approved the de-commissioning of the Company's lab facilities, and the commencement of a process to seek an assignee or sub-lessor for the leases for Neoleukin's corporate headquarters and lab facilities.

On March 8, 2023, Neoleukin issued a press release announcing the restructuring plan and disclosing that it had engaged Leerink Partners to assist in reviewing strategic alternatives for the Company with the goal of maximizing shareholder value.

On March 9, 2023, the Transaction Committee identified Neurogene as a potential reverse merger counterparty in accordance with the Criteria and in particular due to the stage of development of Neurogene's product candidates, the quality of its management team and its readiness to be a U.S. publicly traded company. The Transaction Committee directed Leerink Partners to contact Neurogene.

On March 10, 2023, the Transaction Committee held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners. Representatives of Leerink Partners reviewed the status of outreach to potential reverse merger counterparties. At that point, eight of these potential reverse merger counterparties had received a "process letter" describing Neoleukin and its consideration of a reverse merger transaction (including Neurogene) and nine had informed representatives of Leerink Partners that they had determined not to proceed in the process. In addition, eight companies had independently contacted Leerink Partners to demonstrate interest in being included in the process.

On March 12, 2023, the Transaction Committee identified two additional potential reverse merger counterparties and directed Leerink Partners to contact them.

On March 13, 2023, Neurogene delivered a non-binding preliminary indication of interest to Leerink Partners (the "March 13 Proposal"), proposing a stock-for-stock merger transaction with an ascribed value of Neoleukin of $70 million (assuming closing net cash of $60 million) and an ascribed value of Neurogene of $300 million (which approximated Neurogene's prior post-money valuation million from its financing in March 2022), with an implied ownership interest in the combined company of approximately 19% for existing Neoleukin equityholders, prior to any concurrent financing. Neurogene's proposal also contemplated a concurrent equity financing of $75 million.

In addition, between March 9, 2023 and March 13, 2023, Neoleukin received non-binding preliminary indications of interest from six other privately held companies, which ascribed value to Neoleukin of between $65 million and $95 million, and an implied ownership interest in the combined company ranging from approximately 16% to 35% for existing Neoleukin equityholders, prior to any concurrent financing, and each of which described plans for a concurrent equity financing.

On March 15, 2023, the Transaction Committee held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners. Representatives of Leerink Partners reviewed the status of outreach to potential reverse merger counterparties, including the potential counterparties that had been contacted and those that had submitted, or indicated that they would likely be submitting, indications of interest. The participants discussed the seven indications of interest that had been received to date, including the terms proposed and available information regarding the counterparties. After reviewing the submitted indications of interest, the Transaction Committee selected six indications of interest to prioritize and

invite to make management and due diligence presentations based on the Criteria, one of which was Neurogene. At the meeting, Ms. Boyd disclosed that funds advised by her employer, Baker Bros. Advisors LP ("BBA"), are significant investors in Neurogene. In order to manage any potential or actual conflict of interests, BBA established an ethical wall within BBA (i) to screen Ms. Boyd from any non-public information concerning Neurogene that could aid Neoleukin in negotiation of a transaction with Neurogene and (ii) to ensure that non-public information concerning Neoleukin that could aid Neurogene in negotiation of a transaction with Neoleukin would not be shared with Neurogene or BBA employees participating in discussions with Neurogene about a transaction with Neoleukin. In addition, the Transaction Committee determined that Ms. Boyd would recuse herself from any discussions regarding negotiations of economic terms for a possible transaction with Neurogene. Ms. Boyd thereafter recused herself from substantive discussions regarding the economic terms of Neurogene's proposal, and negotiating strategy.

On March 20, 2023, the Neoleukin board of directors held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, at which, among other things, the Neoleukin board of directors received an update on the Transaction Committee's strategic review process to date and Neoleukin's senior management reviewed the status of the Company's wind-down activities and reduction in force. At the meeting, the Neoleukin board of directors discussed, and concurred with, the Transaction Committee's determination to proceed with the six potential counterparties it had identified at the March 15 meeting of the Transaction Committee, as well as the determination that Ms. Boyd would recuse herself from any discussions regarding negotiations of economic terms for a possible transaction with Neurogene.

Between March 20, 2023 and April 4, 2023, Neoleukin received inbound interest from three parties interested in exploring potential strategic transactions with Neoleukin for its legacy assets.

On March 23, 2023, the Transaction Committee held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners. Representatives of Leerink Partners reviewed the status of outreach to potential reverse merger counterparties and inbound interest in Neoleukin's legacy assets, which had not resulted in any of the parties submitting a proposal for Neoleukin's legacy assets.

On March 24, 2023, one of the prioritized potential reverse merger counterparties informed representatives of Leerink Partners that they had determined not to proceed in the process before presenting to Neoleukin's senior management.

Between March 23, 2023, and March 31, 2023, the remaining five prioritized reverse merger counterparties, including Neurogene, each conducted a presentation for Neoleukin's senior management and the Transaction Committee.

Between March 23, 2023 and April 4, 2023, four additional reverse merger candidates that contacted either Leerink Partners or Neoleukin expressing interest in participating in the process received process letters and submitted proposals, which ascribed value to Neoleukin of between $62 million and $75 million.

On March 31, 2023, the Transaction Committee held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners. Representatives of Leerink Partners reviewed the status of engagement with potential reverse merger counterparties. At that point, eight potential counterparties had submitted proposals that were not withdrawn (one of the potential counterparties had determined not to proceed in the process after submitting a proposal). Of those eight, Neoleukin management and its financial and legal advisors (including Leerink Partners), at the direction of the Transaction Committee, were conducting due diligence on five (including Neurogene), focused on strategic, scientific and clinical matters, as well as competition and other business factors. The remaining three were not prioritized for diligence based on their early stage of development, their relative commercial market opportunity, the perception of the Transaction Committee regarding their ability to raise sufficient additional funds, and/or their readiness for public markets.

On April 3, 2023, the Neoleukin board of directors appointed Ms. Cochener as the Company's Interim Chief Executive Officer and designated her as the Company's principal executive officer and appointed Mr. Smith as

the Company's Interim Chief Financial Officer and designated him as the Company's principal financial officer, each effective as of March 31, 2023.

Between April 4, 2023 and April 6, 2023, the three additional reverse merger counterparties who submitted proposals between March 27, 2023 and April 4, 2023 conducted presentations for Neoleukin's senior management and the Transaction Committee.

On April 6, 2023, the Neoleukin board of directors held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, at which representatives of Leerink and members of the Transaction Committee provided an update on the Transaction Committee's strategic review process to date. At that point, 11 potential counterparties had submitted proposals, and 12 had determined not to proceed in the process. Neoleukin management, with the assistance of its financial and legal advisors (including Leerink Partners), was continuing to conduct due diligence on seven of the 11 companies that had submitted proposals (including Neurogene). Three of the potential counterparties that had submitted proposals were not prioritized for diligence, and one of the potential counterparties had determined not to proceed in the process after submitting its proposal. Between March 15, 2023 and April 13, 2023, the 10 counterparties that had submitted and not withdrawn proposals executed customary confidentiality agreements with Neoleukin, each containing customary standstill provisions that would expire upon Neoleukin's entry into an agreement providing for a change in control transaction and similar events and none of which included a "don't ask/don't waive" provision. At the meeting, the Neoleukin board of directors (other than Ms. Boyd, who was recused from the portions of the meeting relating to Neurogene) determined to proceed with detailed due diligence on three potential counterparties. The three indications of interest that were selected for further evaluation were:

- The March 13 Proposal from Neurogene.
- An indication of interest from a company referred to as "Party A," a privately held biotechnology company, which was received on March 28, 2023, and which proposed a stock-for-stock merger transaction with an ascribed value of Neoleukin of $70 million (assuming closing net cash of $60 million) and an ascribed value of Party A of $250 million (which represented a 1.25x step-up to Party A's prior post-money valuation of $200 million from its financing in December 2021), with an implied ownership interest in the combined company of approximately 22% for existing Neoleukin equityholders, prior to any concurrent financing. Party A's proposal also contemplated a concurrent financing of $40 million.
- An indication of interest from a company referred to as "Party B," a privately held biotechnology company, which was received on April 4, 2023, and which proposed a stock-for-stock merger transaction with an ascribed value of Neoleukin of $62 million (assuming closing net cash of $60 million) and an ascribed value of Party B of $240 million (which represented a 1.13x step-up to Party B's prior post-money valuation of $213 million from its financing in January 2023), with an implied ownership interest in the combined company of approximately 20.5% for existing Neoleukin equityholders, prior to any concurrent financing. Party B's proposal also contemplated a concurrent financing of $50 million.

From April 6, 2023 through April 28, 2023, the Transaction Committee and representatives of Leerink Partners conducted additional due diligence on Neurogene, Party A and Party B. This additional due diligence included videoconferences with counterparty management and reviewing the contents of counterparty virtual data rooms. The participants focused on the potential counterparties' strengths and weaknesses with respect to product candidate viability, potential data readouts, progress toward clinical trial, fundraising ability, valuations, public company readiness and other Criteria. In addition, during this period, the Transaction Committee held three meetings, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, to discuss the status of this due diligence and the findings with respect to each of the three counterparties.

On April 28, 2023, the Transaction Committee held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners. Representatives of Leerink Partners reviewed the status of discussions with potential reverse merger counterparties, including the results of diligence

on the three potential counterparties and the terms proposed by those counterparties. Following discussion, the Transaction Committee (other than Ms. Boyd, who was recused from the portions of the meeting relating to Neurogene) determined that the Neurogene proposal was superior to the proposals from the other potential reverse merger counterparties due in particular to the stage of development of Neurogene's product candidates, the attractiveness of its technology, the quality of its management team, board and investor base, its readiness to be a U.S. publicly traded company, and its proposed relative valuations and pro forma ownership splits of the combined company's equity. The Transaction Committee (other than Ms. Boyd) then directed Neoleukin's senior management and representatives of Leerink Partners to prioritize discussions with Neurogene, including the negotiation of a term sheet with Neurogene on terms consistent with those proposed. Leerink Partners was directed to advise Neurogene, Party A and Party B of the Transaction Committee's decision. Following the prioritization of Neurogene as a counterparty for a potential transaction, the Transaction Committee decided to replace Ms. Boyd on the Transaction Committee with Mr. Simpson due to BBA's investment in Neurogene.

Between May 1 and June 2, 2023, Neoleukin and Neurogene, with the assistance of their respective financial advisors and legal counsel, negotiated the terms of a non-binding term sheet for a potential merger, including the implied valuation of the parties, the treatment of Neoleukin's lease liabilities, the treatment of Neoleukin's legacy assets and the post-closing board composition of the combined company. In particular, the parties determined to ascribe a value to Neoleukin of $76 million (assuming closing net cash of $66 million) less the amount of Neoleukin's lease obligations at the closing of the merger, which the parties anticipated to be approximately $20 million, and a value to Neurogene equal to the lesser of $375 million (assuming a concurrent financing of $75 million) and Neurogene's post-money valuation following the concurrent financing. In addition, the term sheet provided for a contingent value rights agreement (the "CVR Agreement"), pursuant to which Neoleukin equityholders would be entitled to post-closing payments to the extent (i) the post-closing combined company received net proceeds from the disposition of Neoleukin's pre-closing legacy assets pursuant to an agreement entered into within twelve months of closing or (ii) the post-closing combined company realized certain net savings in connection with the reduction of Neoleukin's legacy lease obligations. The term sheet also provided that the post-closing board of Neoleukin would include two designees from Neoleukin and five from Neurogene. In addition, the term sheet provided for a 21-day exclusivity period. Over the course of May, the Transaction Committee held four meetings, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, to discuss the status of the negotiations with Neurogene and to provide guidance on the terms of the proposed term sheet that would be acceptable to Neoleukin.

On May 23, 2023, a privately held company publicly disclosed an offer to acquire Neoleukin for $1.00 in cash plus stock in the private company. Neoleukin had previously engaged with the company and had determined its proposal would not maximize shareholder value given the lack of feasibility of the proposed use of private stock as consideration for the public stockholders of Neoleukin, and this privately held company's legal and regulatory challenges.

On May 31, 2023, the Neoleukin board of directors held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, at which the Neoleukin board of directors received an update on the terms of the proposed term sheet with Neurogene and Neurogene's request for exclusivity. The Neoleukin board of directors (other than Ms. Boyd, who was recused from the portions of the meeting relating to Neurogene) discussed the request for exclusivity, and the discussions with, and due diligence on, Neurogene, Party A and Party B. Following discussion, the Neoleukin board of directors approved entering into exclusivity with Neurogene for a period to be determined by the Transaction Committee.

On June 2, 2023, the Transaction Committee held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, to discuss the final terms of the term sheet and the proposed exclusivity agreement with Neurogene, which provided for a 21-day exclusivity period with successive 10-day extensions, unless 10 days' notice of non-extension were given by either party. Following discussion, the Transaction Committee approved the execution of the term sheet and the exclusivity agreement on the terms discussed by the Transaction Committee and the negotiation of a definitive agreement based on the

terms in the term sheet. Later that day, Neoleukin and Neurogene executed the term sheet and the exclusivity agreement.

On June 6, 2023 and June 8, 2023, Fenwick and Gibson Dunn & Crutcher LLP ("Gibson Dunn"), outside legal counsel to Neurogene, exchanged requests for legal due diligence, and each party provided the other (and its representatives) with access to a virtual data room to share information and legal documentation with the other party and its representatives. From June 6, 2023 through July 16, 2023, each party, with the assistance of its advisors, conducted a due diligence review with respect to the other party, including meetings between members of the senior management of Neoleukin and Neurogene and their respective financial and legal advisors at which the parties reviewed Neurogene, its intellectual property, its product candidates, its development plans and the anticipated market for its product candidates. In addition, during this period, the Transaction Committee held six meetings, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, to discuss the status of the due diligence and to provide guidance on the terms of the definitive agreements that would be acceptable to Neoleukin.

On June 14, representatives of Fenwick delivered an initial draft of the Merger Agreement to representatives of Gibson Dunn.

On June 25, representatives of Gibson Dunn delivered an initial draft of the CVR Agreement to representatives of Fenwick.

Between June 25, 2023 through July 17, 2023, representatives of Fenwick and Gibson Dunn and Ms. Cochener of Neoleukin and Ms. Mikail of Neurogene negotiated the terms of the Merger Agreement and the CVR Agreement, including the definition of Neoleukin net cash and the formula to adjust that net cash for Neoleukin's lease obligation, the allocation of transaction expenses, the treatment of Neoleukin equity awards, the extent of the efforts that Neurogene would undertake under the CVR Agreement to meet the payment triggers thereunder, the treatment of a potential tax refund from the State of Washington, the representations and warranties and operating covenants of each party, the amount of the termination fees, and the limits on expense reimbursement, payable by each party, and the terms of the forms of support agreement and lock-up agreement and the subscription agreement for the concurrent financing.

On July 3, Neoleukin sent a notice of termination of exclusivity to Neurogene, providing the required 10 days' prior notice under the exclusivity agreement for exclusivity to terminate on July 13, 2023. In its notice, Neoleukin noted that it remained committed to completing negotiation of a definitive transaction agreement as expeditiously as possible, and anticipated that the parties would be able to finalize and execute the definitive transaction agreement before July 13, 2023.

On July 12, 2023, the Neoleukin board of directors held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, at which representative of Leerink and Fenwick, and Neoleukin senior management, provided the Neoleukin board of directors with an update on the status of negotiations with Neurogene and the status of Neurogene's concurrent financing. In view of the advanced status of negotiations with Neurogene and the determination by the Neoleukin board of directors that the parties were close to finalizing the Merger Agreement and CVR Agreement, the Neoleukin board of directors approved extending exclusivity through July 18, 2023. At the meeting, representatives of Leerink Partners led a discussion regarding a long-term forecast of the operating results of Neurogene through December 31, 2041 and related underlying assumptions regarding Neurogene, prepared by management of Neoleukin, a copy of which forecast had been provided to the Neoleukin board of directors, and described the input it had received with respect to such forecast from Neurogene, as described in the section entitled "*The Merger—Financial Forecasts*." Following discussion, the Board approved the use of the forecast by Leerink Partners in its analysis of the fairness of the proposed merger between the Neoleukin and Neurogene to the equityholders of Neoleukin. Later that day, the parties entered into an agreement to extend exclusivity until July 18, 2023.

On July 14, 2023, Cowen and Company, LLC ("TD Cowen"), Neurogene's financial advisor provided Leerink Partners with an update on Neurogene's concurrent financing. In particular, TD Cowen informed Leerink Partners that Neurogene anticipated receiving agreements to invest $95 million instead of $75 million in the pre-closing financing and that Neurogene's pre-money valuation for purposes of the concurrent financing (and thus the exchange ratio under the Merger Agreement) would be $200 million instead of $300 million.

On July 16, 2023, the Neoleukin board of directors held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners, at which representatives of Leerink Partners and Fenwick provided an update on the status of negotiations with Neurogene and the status of Neurogene's concurrent financing. During the meeting, representatives of Fenwick reviewed the fiduciary duties under Delaware law of the Neoleukin board of directors in connection with the proposed merger with Neurogene, the terms of the Merger Agreement and the CVR Agreement and the forms of support agreement and lock-up agreement. The participants also reviewed the due diligence process that Neoleukin and its representatives undertook to evaluate Neurogene, including its technology, pipeline, commercial prospects, regulatory interactions, clinical plans and data, intellectual property, legal and compliance matters, financial position and other matters. Representatives of Leerink Partners then reviewed and discussed with the Neoleukin Board Leerink Partners' preliminary financial analysis with respect to Neoleukin, Neurogene and the proposed terms of the merger. In addition, the Neoleukin board of directors reviewed and discussed an analysis of the cash that might be distributed to Neoleukin stockholders if Neoleukin were to liquidate instead of executing a reverse merger transaction, as described in the section entitled "*The Merger—Neoleukin Liquidation Analysis.*"

On July 17, 2023, the Neoleukin board of directors held a meeting, also attended by members of Neoleukin's senior management and representatives of Fenwick and Leerink Partners. Representatives of Fenwick indicated that the Merger Agreement, the CVR Agreement, the subscription agreements and all other ancillary documents associated with the proposed merger with Neurogene were in final form, with no material changes to any of the terms that had been reviewed at the July 15 meeting. A representative of Leerink Partners then reviewed Leerink Partners' financial analysis with respect to Neoleukin, Neurogene and the proposed terms of the merger. Thereafter, at the request of the Neoleukin board of directors, Leerink Partners rendered to the Neoleukin board of directors its oral opinion, which was subsequently confirmed by delivery of a written opinion dated July 17, 2023, that, as of such date and based upon and subject to the various assumptions made, and the qualifications and limitations upon the review undertaken by Leerink Partners in preparing its opinion, the exchange ratio proposed to be paid by Neoleukin pursuant to the terms of the Merger Agreement was fair, from a financial point of view, to Neoleukin. After further discussion, based on the factors cited in "*—Neoleukin's Reasons for the Merger*," the Neoleukin board of directors unanimously: (i) determined that the merger and the related transactions contemplated by the Merger Agreement are fair to, advisable and in the best interests of Neoleukin and its stockholders, (ii) approved and declared advisable the Merger Agreement and the related transactions contemplated by the Merger Agreement, including the issuance of shares of Neoleukin common stock and pre-funded warrants in connection with the merger and (iii) recommended that Neoleukin's stockholders vote in favor of the Proposals.

Subsequently, on July 17, 2023, Neoleukin and Neurogene entered into the Merger Agreement and Neurogene entered into the subscription agreement for the $95 million concurrent equity financing. Following the announcement of entering into the Merger Agreement, Neoleukin senior management continued to engage with parties that may be interested in acquiring the remaining Neoleukin legacy assets in accordance with the terms of the Merger Agreement.

Neoleukin's Reasons for the Merger

The Neoleukin board of directors, in consultation with financial and legal advisors and management, evaluated the terms of the Merger Agreement and the related transactions contemplated thereby and unanimously: (i) determined that the merger and the related transactions contemplated by the Merger Agreement are fair to, advisable and in the best interests of Neoleukin and its stockholders; (ii) approved and declared

advisable the Merger Agreement and the related transactions contemplated by the Merger Agreement, including the issuance of shares of Neoleukin common stock and Neoleukin pre-funded warrants to the stockholders of Neurogene in connection with the merger; and (iii) recommends that Neoleukin's stockholders vote in favor of the proposals.

In connection with its review of strategic alternatives, the Neoleukin board of directors delegated certain powers and authority to the Transaction Committee to, among other things, consider and evaluate potential strategic alternatives, including, without limitation, an acquisition, merger, business combination or other transaction, as well as strategic transactions regarding Neoleukin's product candidates and related assets, including licensing transactions and asset sales. The Transaction Committee is comprised of three non-management, independent directors of Neoleukin. The Transaction Committee considered the Merger Agreement and the transactions contemplated thereby in conjunction with the Neoleukin board of directors.

During the course of its evaluation of the Merger Agreement and the transactions contemplated by the Merger Agreement, the Neoleukin board of directors (including the members of the Transaction Committee) held numerous meetings, consulted with Neoleukin's senior management, legal counsel and financial advisors, and reviewed and assessed a significant amount of information. In reaching its decision to approve the Merger Agreement and the transactions contemplated by the Merger Agreement, the Neoleukin board of directors took into account the input of the Transaction Committee, as well as other information presented to it during the process, and considered a number of factors that it viewed as supporting its decision to approve the Merger Agreement, including:

- the financial condition and prospects of Neoleukin and the risks associated with continuing to operate Neoleukin on a stand-alone basis, including in light of:
  - Neoleukin's decision, announced in March 2023, to discontinue its research and development activities, which resulted in a corporate restructuring and further reduction in Neoleukin's workforce by approximately 70% (in addition to its decision to discontinue the development of NL-201 and a prior reduction in force of approximately 40% announced in November 2022);
  - investor interest and value perception for possible further development of its remaining early-stage programs, and probability of success and time required for development in relation to the requisite time and costs; and
  - difficulties encountered in Neoleukin's related business development efforts to license or sell its assets that could result in meaningful new capital or shared future development costs;
- the challenges of maintaining Neoleukin's Nasdaq listing without completing the merger and the transactions contemplated in the Merger Agreement;
- the comprehensive process conducted by the Neoleukin board of directors, the Transaction Committee and Neoleukin's financial advisors of reviewing and analyzing potential strategic alternatives and merger partner candidates, and the Neoleukin board of directors' view that no available alternatives to the merger (including remaining a standalone company, a liquidation or dissolution of Neoleukin to distribute any available cash, and alternative strategic transactions) were reasonably likely to create greater value for Neoleukin's stockholders;
- the Neoleukin board of directors' belief that the merger would provide the existing Neoleukin stockholders with (i) a significant opportunity to participate in the potential growth of the combined company following the merger based on the probability of technical and regulatory success of advancing Neurogene's pipeline of therapeutic programs intended to treat complex neurological disorders, including NGN-401, a clinical-stage product for Rett syndrome, which uses novel gene regulation technology; and (ii) the potential to receive certain cash payments following the closing of the merger pursuant to, and subject to the terms and conditions of, the CVR Agreement with respect to (a) certain net proceeds, if any, derived from any consideration that is paid as a result of the disposition of Neoleukin's pre-merger legacy assets pursuant to one or more agreements entered into before or

within one year after the effective time and realized by June 30, 2029, (b) certain net savings, if any, realized by Neoleukin by June 30, 2029 in connection with the reduction of Neoleukin's legacy lease obligations, and (c) certain net proceeds, if any, derived from Neoleukin's anticipated sales tax refund from Washington State and received by Neoleukin by June 30, 2029;

- the Neoleukin board of directors' belief that the $55.6 million equity value ascribed to Neoleukin (assuming Neoleukin's net cash as of closing is Target Parent Net Cash amount) would provide existing Neoleukin stockholders significant value and afford Neoleukin stockholders a significant opportunity to participate in the potential growth of the combined company following the merger at the negotiated exchange ratio;
- the Neoleukin board of directors' belief, after thorough discussions with Neoleukin's management, financial advisor and legal counsel, that a potential liquidation and dissolution was not reasonably likely to create greater value for Neoleukin stockholders than the merger based on, among other things: the need to hold back a meaningful amount of Neoleukin's current cash balance to cover known and potential unknown liabilities, including obligations pursuant to Neoleukin's facilities leases; the uncertainties of continuing cash burn while contingent liabilities are resolved, uncertainty of timing of release of cash until contingent liabilities are resolved; and the risks and costs associated with being a shell company prior to cash distribution;
- the Neoleukin board of directors' belief that, as a result of arm's length negotiations with Neurogene, Neoleukin and its representatives negotiated the highest exchange ratio achievable, and that the other terms of the Merger Agreement include the most favorable terms to Neoleukin in the aggregate that were achievable and consistent with other similar transactions;
- the Neoleukin board of directors' view that Neurogene's product candidates have the potential to create meaningful value for the stockholders of the combined company and an opportunity for Neoleukin's stockholders to participate in the growth of the combined company, based on the business, scientific, regulatory, intellectual property, financial, accounting and legal due diligence conducted by Neoleukin management and advisors (which included numerous diligence calls and a comprehensive review of Neurogene's due diligence materials);
- the Neoleukin board of directors' consideration of the expected cash balances of the combined company as of the closing of the merger resulting from the Target Parent Net Cash amount expected to be held by Neoleukin upon completion of the merger, together with the cash Neurogene currently holds and the $95 million of expected gross proceeds from the Neurogene pre-closing financing;
- the expected cash burn rate of the combined company, and including the ability of the expected cash resources of the combined company to support the combined company's current and planned clinical trials and operations;
- the Neoleukin board of directors' view that the combined company will be led by (i) an experienced senior management team from Neurogene, many members of which have extensive business and regulatory expertise and experience in drug development and research and development and (ii) a board of directors of the combined company with representation from each of the current boards of directors of Neoleukin and Neurogene;
- the prospects of and risks associated with the other reverse merger candidates that had made proposals for a transaction with Neoleukin based on the business, scientific, regulatory, intellectual property, financial, accounting and legal due diligence conducted by the Transaction Committee, Neoleukin's management and advisors; and
- the opinion of Leerink Partners, rendered orally to the Neoleukin board of directors on July 17, 2023 (and subsequently confirmed in writing by delivery of Leerink Partners' written opinion, dated July 17, 2023), to the effect that, as of such date and based upon and subject to the various assumptions made, and the qualifications and limitations upon the review undertaken by Leerink Partners in preparing its

opinion, the exchange ratio proposed to be paid by Neoleukin pursuant to the terms of the Merger Agreement was fair, from a financial point of view, to Neoleukin, as more fully described in the section entitled "*—Opinion of Leerink Partners to the Neoleukin Board of Directors*" beginning on page 124 in this proxy statement/prospectus.

The Neoleukin board of directors also reviewed the terms of the Merger Agreement and related transaction documents, including:

- the calculation of the exchange ratio, closing net cash and the estimated number of shares of Neoleukin common stock and Neoleukin pre-funded warrants to be issued in the merger, including that the valuation of Neoleukin under the Merger Agreement would be reduced to the extent that Neoleukin's closing net cash is less than the Target Parent Net Cash amount, and that the valuation of Neoleukin under the Merger Agreement would be increased to the extent Neoleukin closing net cash exceeds the Target Parent Net Cash amount;
- the number and nature of the conditions to Neurogene's and Neoleukin's respective obligations to complete the merger and the likelihood that the merger will be completed on a timely basis, as more fully described below under the caption "*The Merger Agreement—Conditions to the Completion of the Merger*," beginning on page 168 in this proxy statement/prospectus;
- the respective rights of, and limitations on, Neoleukin under the Merger Agreement to consider and engage in discussions regarding unsolicited acquisition proposals under certain circumstances, and the limitations on the board of directors of each party to change its recommendation in favor of the merger, as more fully described below under the caption "*The Merger Agreement—Non-Solicitation*," beginning on page 163 in this proxy statement/prospectus;
- the potential termination fee of $3.04 million, in the case of the fee payable by Neoleukin, or $12.0 million, in the case of the fee payable by Neurogene, and related reimbursement of certain transaction expenses of up to $1.0 million, which could become payable by either Neoleukin or Neurogene to the other party if the Merger Agreement is terminated in certain circumstances, as more fully described below under the caption "*The Merger Agreement—Termination and Termination Fees*," beginning on page 172 in this proxy statement/prospectus;
- the lock-up agreements, pursuant to which certain stockholders of Neurogene have, subject to certain exceptions, agreed not to transfer their shares of Neoleukin common stock during the period of 180 days following the completion of the merger, as more fully described below under the caption "*Agreements Related to the Merger—Lock-Up Agreements*," beginning on page 176 in this proxy statement/prospectus;
- the support agreements, pursuant to which certain stockholders of Neoleukin and Neurogene, respectively, have agreed, solely in their capacities as stockholders, to vote all of their shares of Neoleukin common stock or Neurogene common stock in favor of the proposals submitted to them in connection with the merger and against any alternative acquisition proposals, as more fully described below under the caption "*Agreements Related to the Merger—Support Agreements*," beginning on page 175 in this proxy statement/prospectus;
- the CVR Agreement, pursuant to which (a) Neoleukin stockholders and holders of existing Neoleukin pre-funded warrants of record as of a date agreed to by Neoleukin and Neurogene prior to the effective time and (b) holders of shares of the combined company subsequently issued pursuant to exercise of Neoleukin options outstanding as of such date, subject to certain conditions set forth in the CVR Agreement, will receive a CVR for each outstanding share of Neoleukin common stock held by such Neoleukin stockholders, underlying the existing Neoleukin pre-funded warrants or subsequently issued on exercise of such qualified options representing the contractual right to receive contingent payments upon the occurrence of certain events during a certain period following closing, as more fully described below under the caption "*Agreements Related to the Merger—Contingent Value Rights Agreement*," beginning on page 178 in this proxy statement/prospectus; and

- the expectation that the merger will qualify as a reorganization within the meaning of Section 368(a) of the Code, and will constitute a "plan of reorganization" within the meaning of Treasury Regulations Section 1.368-2(g), with the result that Neurogene equityholders will generally not recognize taxable gain or loss for U.S. federal income tax purposes upon the exchange of Neurogene common stock and/or pre-funded warrants for Neoleukin common stock and/or pre-funded warrants pursuant to the Merger Agreement, as more fully described below under the caption "*The Merger—Material U.S. Federal Income Tax Considerations of the Merger,*" beginning on page 142 in this proxy statement/prospectus.

In the course of its deliberations, and in addition to the consideration and input of the Transaction Committee, the Neoleukin board of directors also considered a variety of risks and other countervailing factors related to entering into the merger, including:

- the substantial expenses to be incurred by Neoleukin in connection with the merger;
- the potential effect of the $3.04 million termination fee payable by Neoleukin and Neoleukin's expense reimbursement obligations upon the occurrence of certain events in deterring other potential acquirors from proposing an alternative acquisition proposal that may be more advantageous to Neoleukin stockholders;
- that, while the merger is expected to be completed, there is no assurance that all the conditions to the parties' obligations to complete the merger will be satisfied or waived, or that the merger in fact will be completed;
- the risk of diverting management focus and resources from operational matters and other strategic opportunities while working to implement the merger;
- the prohibition on Neoleukin's solicitation of alternative acquisition proposals during the pendency of the merger;
- the possible volatility of the trading price of the Neoleukin common stock resulting from the announcement, pendency or completion of the merger, and the risk that the Neoleukin common stock might decline in value following the merger;
- the scientific, technical, regulatory and other risks and uncertainties associated with development and commercialization of Neurogene's product candidates;
- the possibility that Neurogene will not be able to complete the Neurogene pre-closing financing;
- the early-stage nature of Neurogene's project candidates and the risks and uncertainties associated with development and commercialization of Neurogene's product candidates;
- the dilution to stockholders of Neoleukin and Neurogene upon the consummation of the merger; and
- the various other risks associated with the combined company and the merger, including those described in the sections entitled "*Risk Factors*" and "*Cautionary Note Regarding Forward-Looking Statements*" in this proxy statement/prospectus.

The foregoing information and factors considered by the Transaction Committee and the Neoleukin board of directors are not intended to be exhaustive but are believed to include all of the material factors considered by the Transaction Committee and the Neoleukin board of directors. In view of the wide variety of factors considered in connection with its evaluation of the merger and the complexity of these matters, the Transaction Committee and the Neoleukin board of directors did not find it useful, and did not attempt, to quantify, rank or otherwise assign relative weights to these factors. In considering the factors described above, individual members of the Transaction Committee and the Neoleukin board of directors may have given different weight to different factors. The Transaction Committee and the Neoleukin board of directors conducted an overall analysis of the factors described above, including thorough discussions with, and questioning of, the Neoleukin management team and the legal and financial advisors of Neoleukin, and considered the factors overall to be favorable to, and to support, its determination.

Neurogene's Reasons for the Merger

The Neurogene board of directors has unanimously approved the merger, the Merger Agreement and the other transactions contemplated thereby. In the course of reaching its decision to approve the merger and the Neurogene pre-closing financing, the Neurogene board of directors held numerous meetings, consulted with Neurogene's senior management, its financial advisor and legal counsel, and considered a wide variety of factors. Ultimately, the Neurogene board of directors concluded that a merger with Neoleukin, together with the additional financing committed from the Neurogene pre-closing financing, was the best option to generate capital resources to support the advancement of Neurogene's pipeline and fund the combined organization.

Additional factors the Neurogene board of directors considered included the following (which factors are not necessarily presented in any order of relative importance):

- the merger will potentially expand the access to capital and the range of investors available as a public company to support the clinical development of Neurogene's pipeline, compared to the capital and investors Neurogene could otherwise gain access to if it continued to operate as a privately-held company;
- the Neurogene pre-closing financing will generate capital resources to fund the combined company;
- the potential benefits from increased public market awareness of Neurogene and its pipeline;
- the historical and current information concerning Neurogene's business, including its financial performance and condition, operations, management and preclinical and clinical data;
- the competitive nature of the industry in which Neurogene operates;
- the Neurogene board of directors' fiduciary duties to Neurogene stockholders;
- the Neurogene board of directors' belief that alternatives to the merger, including an alternative public listing strategy, together with the additional financing committed from the Neurogene pre-closing financing, were not reasonably likely to create greater value for Neurogene stockholders, after reviewing the various financing and other strategic options to enhance stockholder value that were considered by the Neurogene board of directors;
- the Neurogene board of directors' expectation that the merger, together with the additional financing committed from the Neurogene pre-closing financing, would be a higher probability and more cost-effective means to access capital than other options considered, including an initial public offering;
- the expected operations, management structure and operating plans of the combined company (including the ability to support the combined company's current and planned preclinical and clinical trials), including the impact of the CVR Agreement;
- the business, history, operations, financial resources, assets, technology and credibility of Neoleukin;
- the availability of appraisal rights under the DGCL to holders of Neurogene capital stock who comply with the required procedures under the DGCL, which allow such holders to seek appraisal of the fair value of their shares of Neurogene capital stock as determined by the Delaware Court of Chancery;
- the terms and conditions of the Merger Agreement, including the following:
    - the determination that the expected relative percentage ownership of Neoleukin stockholders and Neurogene stockholders in the combined organization was appropriate, based on the Neurogene board of directors' judgment and assessment of the approximate valuations of Neoleukin (including the value of the net cash Neoleukin is expected to provide to the combined company) and Neurogene (including the value of the amount of proceeds from the Neurogene pre-closing financing);
    - the expectation that the merger will be treated as a reorganization for U.S. federal income tax purposes, with the result that in the merger, the Neurogene stockholders will generally not recognize taxable gain or loss for U.S. federal income tax purposes;

- the limited number and nature of the conditions of the obligation of Neoleukin to consummate the merger;
- the rights of Neurogene under the Merger Agreement to consider certain unsolicited acquisition proposals under certain circumstances should Neurogene receive a superior proposal;
- the conclusion of the Neurogene board of directors that the potential termination fees payable by Neoleukin or Neurogene to the other party, and the circumstances when such fee may be payable, were reasonable; and
- the belief that the other terms of the Merger Agreement, including the parties' representations, warranties and covenants, and the conditions to their respective obligations, were reasonable in light of the entire transaction;

- the shares of Neoleukin's common stock issued to Neurogene stockholders (including shares underlying Neoleukin pre-funded warrants) will be registered on a Form S-4 registration statement and will become freely tradable for Neurogene stockholders who are not affiliates of Neurogene and who are not parties to lock-up agreements;
- the support agreements, pursuant to which certain directors, officers and stockholders of Neurogene and Neoleukin, respectively, have agreed, solely in their capacity as stockholders of Neurogene and Neoleukin, respectively, to vote all of their shares of Neurogene capital stock or Neoleukin common stock in favor of the adoption or approval, respectively, of the Merger Agreement;
- the ability to obtain a Nasdaq listing and the change of the combined organization's name to Neurogene Inc. upon the closing of the merger; and
- the likelihood that the merger will be consummated on a timely basis.

The Neurogene board of directors also considered a number of uncertainties and risks in its deliberations concerning the merger and the other transactions contemplated by the Merger Agreement, including the following:

- the possibility that the merger might not be completed and the potential adverse effect of the public announcement of the merger on the reputation of Neurogene, and the ability of Neurogene to obtain financing in the future in the event the merger is not completed;
- the possibility that the Neurogene pre-closing financing might not be completed or completed in accordance with the terms of the Merger Agreement and the potential adverse effect of the public announcement of the Neurogene pre-closing financing on the reputation of Neurogene, and the ability of Neurogene to obtain financing in the future in the event the Neurogene pre-closing financing is not completed;
- the risk that future sales of common stock by existing Neoleukin stockholders may cause the price of Neoleukin common stock to fall, thus reducing the potential value of Neoleukin common stock received by Neurogene stockholders following the merger;
- the exchange ratio used to establish the number of shares of Neoleukin's common stock to be issued to Neurogene stockholders in the merger is fixed, except for adjustments due to Neoleukin's net cash balances, the amount of proceeds from the Neurogene pre-closing financing and outstanding capital stock at closing, and thus the relative percentage ownership of Neoleukin stockholders and Neurogene stockholders in the combined organization immediately following the completion of the merger is similarly fixed;
- the termination fee payable by Neurogene to Neoleukin upon the occurrence of certain events and/or Neurogene's expense reimbursement obligations under certain specified circumstances pursuant to the Merger Agreement, and the potential effect of such termination fee and/or expense reimbursement obligations in deterring other potential acquirers from proposing an alternative transaction that may be more advantageous to Neurogene stockholders;

- the potential reduction of Neoleukin's net cash prior to the closing;
- the possibility that Neoleukin could, under certain circumstances, consider unsolicited acquisition proposals if superior to the merger or change its recommendation to approve the merger upon certain events;
- the risk that the merger might not be consummated in a timely manner or at all, for a variety of reasons, such as the failure of Neoleukin to obtain the required stockholder vote or the failure of Neurogene to close the Neurogene pre-closing financing, and the potential adverse effect on the reputation of Neurogene and the ability of Neurogene to obtain financing in the future in the event the merger is not completed;
- the costs involved in connection with completing the merger, the time and effort of Neurogene senior management required to complete the merger, the related disruptions or potential disruptions to Neurogene's business operations and future prospects, including its relationships with its employees, suppliers and partners and others that do business or may do business in the future with Neurogene, and related administrative challenges associated with combining the companies;
- the uncertainties regarding the activities related to potential future distributions to CVR holders under the CVR Agreement, including the risk that Neoleukin's legacy lease obligations may not be reduced or mitigated or, if successfully reduced or mitigated, the amount of cash or stock that the combined company will have to distribute CVR holders, and the allocation of combined company resources to attempting to dispose of Neoleukin's legacy assets and mitigate Neoleukin's lease liabilities;
- the additional expenses and obligations to which Neurogene's business will be subject following the merger that Neurogene has not previously been subject to, and the operational changes to Neurogene's business, in each case that may result from being a public company;
- the fact that the representations and warranties in the Merger Agreement do not survive the closing of the merger and the potential risk of liabilities that may arise post-closing; and
- various other risks associated with the combined organization and the merger, including the risks described in the section entitled "Risk Factors" in this proxy statement/prospectus.

The foregoing information is not intended to be exhaustive, but is believed to include a summary of all of the material factors considered by the Neurogene board of directors in its consideration of the Merger Agreement and the transactions contemplated thereby. After conducting an overall analysis of these and other factors, including thorough discussions with, and questioning of, Neurogene's senior management and legal counsel, the Neurogene board of directors concluded that the benefits, advantages and opportunities of a potential transaction outweighed the uncertainties and risks described above. Based on this overall analysis of the factors described above, the Neurogene board of directors unanimously approved the Merger Agreement, the merger and the other transactions contemplated by the Merger Agreement.

Neoleukin Liquidation Analysis

In connection with the evaluation of the merger by Neoleukin's board of directors, Neoleukin management prepared an analysis with respect to the estimated value of the liquidation or dissolution of Neoleukin as a potential alternative to the merger, including for such purposes Neoleukin's estimated cash position at the time of the potential dissolution or liquidation and the amount of cash available to be distributed to Neoleukin's stockholders and holders of existing Neoleukin pre-funded warrants in connection with any such proposed future dissolution or liquidation (the "Liquidation Analysis").

The Liquidation Analysis is not included to influence your views on the merger, the Merger Agreement and the transactions contemplated thereby, and is summarized in this proxy statement/prospectus solely to provide stockholders access to certain information considered by Neoleukin's board of directors in connection with its

evaluation of the merger, the Merger Agreement and the transactions contemplated thereby. Any estimates contained in these analyses are not necessarily indicative of actual values or predictive of future results or values, which may be significantly more or less favorable than as set forth below. In addition, analyses relating to the value of Neoleukin do not purport to be appraisals or reflect the prices at which shares of Neoleukin common stock may actually be valued or may actually trade, either before or after the consummation of the merger.

The Liquidation Analysis was not prepared with a view toward public disclosure, nor was it prepared with a view toward compliance with published guidelines of the SEC, the guidelines established by the American Institute of Certified Public Accountants for preparation and presentation of prospective financial information, or GAAP. Neither the independent registered public accounting firm of Neoleukin nor any other independent accountant has audited, reviewed, compiled, examined or performed any procedures with respect to the accompanying unaudited prospective financial information for the purpose of its inclusion herein, and accordingly, neither the independent registered public accounting firm of Neoleukin nor any other independent accountant expresses an opinion or provides any form of assurance with respect thereto for the purpose of this proxy statement/prospectus.

The Liquidation Analysis includes estimates of cash and of certain expenditures, which for the purpose of the Liquidation Analysis were not calculated in accordance with GAAP. Non-GAAP financial measures should not be viewed as a substitute for GAAP financial measures and may be different from non-GAAP financial measures used by other companies. Furthermore, there are limitations inherent in non-GAAP financial measures because they exclude charges and credits that are required to be included in a GAAP presentation. Accordingly, non-GAAP financial measures should be considered together with, and not as an alternative to, financial measures prepared in accordance with GAAP. The SEC rules, which otherwise would require a reconciliation of a non-GAAP financial measure to a GAAP financial measure, do not apply to non-GAAP financial measures provided to a board of directors or financial advisors in connection with a proposed business combination transaction such as the merger if the disclosure is included in a document such as this proxy statement/prospectus to comply with requirements under state laws, including case law.

In light of the foregoing factors and the uncertainties inherent in estimated cash balances, stockholders are cautioned not to place undue reliance, if any, on the Liquidation Analysis.

The below summary of the Liquidation Analysis is subject to the statements above, and it represents Neoleukin management's estimates of Neoleukin's cash position at the time of the potential dissolution or liquidation and the amount of cash which may be distributed to stockholders and holders of Neoleukin's existing pre-funded warrants as permitted under applicable law pursuant to a plan of dissolution.

At the direction of the Neoleukin board of directors, Neoleukin management compared an assumed value per share of the merger to Neoleukin stockholders and holders of existing Neoleukin prefunded warrants to the present value per fully diluted share that might be realized in a liquidation as an alternative to pursuing the merger. In conducting this analysis Neoleukin's management determined the implied equity value of Neoleukin common stock in liquidation to be equal to the present value of the amount of cash available for distribution to Neoleukin stockholders and warrant holders in an orderly liquidation of Neoleukin. Neoleukin's management assumed that approximately $49.3 million in cash would be available at the commencement of a liquidation process in October 2023 (representing an anticipated cash balance of approximately $69.6 million minus anticipated future operating expenses, primarily related to Neoleukin's lease obligations, remaining costs to wind-down the NL-201 clinical trial and professional service fees, of approximately $20.3 million), and that approximately 80% of the $49.4 million would be distributed to stockholders and warrant holders upon commencement of dissolution, and 20% (the "holdback cushion") would be held in reserve for other expenses and liabilities that might arise, with any remaining amount, if any, to be distributed to stockholders and warrant holders 36 months after the dissolution commenced. These assumptions resulted in an aggregate present value of $0.79 to $0.87 per fully diluted share (including all outstanding shares and all shares underlying the outstanding

Neoleukin pre-funded warrants), with an initial distribution amount of approximately $0.71 per fully diluted share and range of $0.08 per fully diluted share to $0.16 per fully diluted share, using a discount rate of 4.65%, and assuming further distribution of between 50% to 100% of the holdback cushion. The percentage of holdback cushion that would potentially be available for further distribution would depend on the amount of wind-down costs, the amount required to settle Neoleukin's remaining obligations under current contracts, the need to retain employees to facilitate the wind-down and the satisfaction by Neoleukin of its remaining obligations (including obligations to continue SEC filings), and the need to retain funds beyond that distribution for unknown or contingent liabilities, each of which could be material and the total amount of which could not currently be estimated. In the event that the actual amount of future operating expenses (such as pursuant to the lease obligations) were less than $20.3 million, additional amounts would be distributable to Neoleukin's stockholders. In addition, the Liquidation Analysis assumed no litigation or other contingent liabilities that were not currently known and recorded; if any such contingent liabilities were to occur, such liabilities could potentially further deplete available cash during the liquidation process and reduce the amount of the holdback cushion that would be distributable to Neoleukin's stockholders.

Financial Forecasts

At the direction of Neoleukin's board of directors, including its evaluation of the proposed merger with Neurogene and the other transactions contemplated by the Merger Agreement, Neoleukin's management prepared risk-adjusted financial forecasts regarding Neurogene for the fiscal years from 2023 to 2041 (the "Financial Forecasts"). The Financial Forecasts were developed for use only by Neoleukin's board of directors and Leerink Partners.

The Financial Forecasts reflected information provided by the management of Neurogene, publicly available information and data analytics from industry and medical literature sources, pertinent Wall Street analyst research, primary market research and the judgment of Neoleukin's management, as well as a number of assumptions and estimates, including assumptions (1) that Neurogene pursues the development and commercialization within the United States of NGN-401 in Rett syndrome and its earlier stage pipeline programs (and finances this with estimated net cash of $42.0 million on October 31, 2023, which does not include any cash from Neoleukin that would become available if the merger is consummated, and proceeds of $95.0 million from the concurrent private equity financing); (2) that Neurogene receives revenue from partnerships for the development and commercialization of NGN-401 in Rett syndrome outside of the United States, and does not receive revenue from direct sales outside of the United States; and (3) that Neurogene does not earn revenue from the sale of any products other than those described above, or incur any material development, regulatory, manufacturing or sales or marketing costs associated with any such other products or product development programs. The probability of success attributed to NGN-401 in Rett syndrome in the Financial Forecasts and the corresponding anticipated product candidate launch timelines are based on industry information regarding product candidates at a similar stage of development as well as the judgment of Neoleukin's management.

The assumptions and estimates underlying the Financial Forecasts may not be realized and are inherently subject to significant business, economic and competitive uncertainties and contingencies, all of which are difficult to predict and many of which are beyond the control of Neurogene. The assumptions and estimates used to create the Financial Forecasts involve judgments made with respect to, among other things, sales growth rates, market size and growth rates, market share, future pricing, levels of operating expenses, revenues, development of additional future opportunities, pipeline products, milestone payments and probability of success, all of which are difficult to predict. The Financial Forecasts also reflect assumptions that do not reflect any of the effects of the merger, or any other changes or business decisions that may in the future affect Neurogene, or its assets, business, operations, properties, policies, corporate structure, capitalization and management of each company or the combined company as a result of the completion of the merger or otherwise. Accordingly, there can be no assurance that the assumptions and estimates used to prepare the Financial Forecasts will prove to be accurate, and actual results may materially differ. The Financial Forecasts are forward-looking statements and should not be relied upon as necessarily predictive of actual future results. For information on factors that may cause future

financial results to materially vary, see "*Cautionary Note Regarding Forward-Looking Statements*" on page 97 of this proxy statement/prospectus.

As a result of the foregoing, there can be no assurance that the Financial Forecasts accurately reflect future trends or accurately estimate the future market for the product candidates of Neurogene. There can be no assurance of the approval, or timing of such approval, of such product candidates. Important factors that may affect actual results and result in the Financial Forecasts not being achieved include, but are not limited to, the timing of regulatory approvals and introductions of new products, market acceptance of new products, success of clinical testing, availability of third-party reimbursement, impact of competitive products and pricing, the effect of regulatory actions, the effect of global economic conditions, the cost and effect of changes in tax and other legislations and other risks. In addition, the Financial Forecasts may be affected by Neurogene's ability to achieve strategic goals, objectives and targets over the applicable periods. Further, the Financial Forecasts cover multiple years and, by their nature, become subject to greater uncertainty with each successive year. Accordingly, there can be no assurance that the Financial Forecasts will be realized, and actual results may vary materially from those shown.

The inclusion of the Financial Forecasts in this proxy statement/prospectus should not be regarded as an indication that Neoleukin or any of its representatives considered or consider the Financial Forecasts to be necessarily predictive of actual future events, and the Financial Forecasts should not be relied upon as such.

The Financial Forecasts are not being included in this proxy statement/prospectus to influence a stockholder's decision whether to vote in favor of the merger proposals, but because the Financial Forecasts were made available by Neoleukin's management to Neoleukin's board of directors and to Leerink Partners in connection with the evaluation of the proposed merger with Neurogene and the other transactions contemplated by the Merger Agreement. A summary of the risk-adjusted Financial Forecasts is set forth below.

Summary of Neurogene Financial Forecasts

($ in millions)	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E	2036E	2037E	2038E	2039E	2040E	2041E
Total Adj. Net Revenues(1)	—	—	—	—	—	—	—	$28	$89	$159	$230	$302	$354	$391	$378	$366	$333	$265	$211
Gross Profit(2)	—	—	—	—	—	—	—	$24	$78	$141	$205	$272	$321	$353	$342	$331	$301	$239	$191
Total Operating Income(3)	($34)	($34)	($38)	($34)	($38)	($36)	($33)	($9)	$38	$99	$157	$214	$247	$275	$265	$255	$231	$182	$144
Unlevered Free Cash Flow(4)	($34)	($34)	($38)	($34)	($38)	($36)	($33)	($11)	$30	$88	$143	$172	$190	$214	$211	$203	$186	$150	$119

(1) Total Adjusted Net Revenues, as presented herein, is a non-GAAP measure that reflects net revenue associated with product sales as well as potential future royalty and milestone payments.
(2) Total Gross Profit, as presented herein, reflects Total Adjusted Net Revenues, less costs of goods sold and royalties owed by Neurogene on NGN-401.
(3) Total Operating Income, as presented herein, reflects gross profit, less operating expenses.
(4) Unlevered Free Cash Flow, as presented herein, represents operating income, less tax expense and less changes in net working capital. Share-based compensation is treated as a cash expense.

Certain of the measures included in the Financial Forecasts are non-GAAP financial measures, including unlevered free cash flow, as noted below. Neoleukin's management included such measures in the Financial Forecasts because it believed that such measures may be useful in evaluating, on a prospective basis, the potential operating performance and cash flow of the Neurogene. In certain circumstances, including those applicable to the Financial Forecasts, financial measures included in forecasts provided to a financial advisor and a board of directors in connection with a business combination transaction are excluded from the definition of "non-GAAP financial measures" under applicable SEC rules and regulations. As a result, the financial measures included in the Financial Forecasts are not subject to SEC rules regarding disclosures of non-GAAP financial measures, which would otherwise require a reconciliation of a non-GAAP financial measure to a GAAP financial measure. Reconciliations of non-GAAP financial measures were not provided to or relied upon by Neoleukin's board of directors or Leerink Partners.

Non-GAAP financial measures should not be considered in isolation from, or as a substitute for or superior measure to, financial information presented in compliance with GAAP. Neoleukin's stockholders should also note that these non-GAAP financial measures presented in this proxy statement/prospectus have no standardized meaning prescribed by GAAP, and therefore have limits in their usefulness. Because of the non-standardized definitions, the non-GAAP financial measures as used by Neoleukin in this proxy statement/prospectus and the accompanying footnotes may be calculated differently from, and therefore may not be comparable to, similarly titled amounts used by other companies. Unlevered free cash flow should not be considered as an alternative to operating income or net income as a measure of operating performance or cash flow or as a measure of liquidity.

Although presented with numerical specificity, the Financial Forecasts are not fact and reflect numerous assumptions and estimates made by the Neoleukin's management, including assumptions and estimates noted above. Moreover, the Financial Forecasts are based on certain future business decisions that are subject to change. The Financial Forecasts generally take into account estimated taxes and existing net operating loss carry forwards.

None of Neoleukin, Neurogene or any of their respective representatives has made or makes any representation regarding the information contained in the Financial Forecasts, and except as may be required by applicable securities laws, none of them intends to update or otherwise revise or reconcile the Financial Forecasts to reflect circumstances existing after the date such Financial Forecasts were generated or to reflect the occurrence of future events even in the event that any or all of the assumptions underlying the Financial Forecasts are shown to be in error.

Ernst & Young LLP has not audited, reviewed, examined, compiled nor applied agreed-upon procedures with respect to the accompanying Financial Forecasts related to Neurogene and, accordingly, Ernst & Young LLP does not express an opinion or any other form of assurance with respect thereto. The Ernst & Young report included in this document relates to Neurogene's previously issued financial statements. It does not extend to the Financial Forecasts related to Neurogene and should not be read to do so.

Neither Neoleukin's independent auditors, nor any other independent accountants, have compiled, examined or performed any procedures with respect to prospective financial information contained herein, nor have any expressed any opinion or any other form of assurance on such information or its achievability, and assume no responsibility for, and disclaim any association with, the prospective financial information.

The Financial Forecasts were not prepared with a view to public disclosure or toward compliance with generally accepted accounting principles as applied in the United States, the published guidelines of the SEC regarding projections and forward-looking statements or the guidelines established by the American Institute of Certified Public Accountants for preparation and presentation of prospective financial information.

The Financial Forecasts do not and should not be read to update, modify or affirm any prior financial guidance issued by Neoleukin. **Stockholders are cautioned not to place undue reliance on this information in making a decision as to whether to vote in favor of the merger proposals.**

NEOLEUKIN DOES NOT INTEND TO UPDATE OR OTHERWISE REVISE OR RECONCILE THE FINANCIAL FORECASTS TO REFLECT CIRCUMSTANCES EXISTING AFTER THE DATE WHEN MADE OR TO REFLECT THE OCCURRENCE OF FUTURE EVENTS, EVEN IN THE EVENT THAT ANY OR ALL OF THE ASSUMPTIONS UNDERLYING THE FINANCIAL FORECASTS ARE NO LONGER APPROPRIATE.

Opinion of Leerink Partners to the Neoleukin Board of Directors

Neoleukin retained Leerink Partners as its financial advisor in connection with the merger and the other transactions contemplated by the Merger Agreement. In connection with this engagement, the Neoleukin board

of directors requested that Leerink Partners evaluate the fairness, from a financial point of view, to Neoleukin of the exchange ratio proposed to be paid by Neoleukin pursuant to the terms of the Merger Agreement. On July 17, 2023, Leerink Partners rendered to the Neoleukin board of directors its oral opinion, which was subsequently confirmed by delivery of a written opinion dated July 17, 2023, that, as of such date and based upon and subject to the various assumptions made, and the qualifications and limitations upon the review undertaken by Leerink Partners in preparing its opinion, the exchange ratio proposed to be paid by Neoleukin pursuant to the terms of the Merger Agreement was fair, from a financial point of view, to Neoleukin. In providing its opinion, Leerink Partners noted that the exchange ratio is subject to certain adjustments set forth in the Merger Agreement, and Leerink Partners expressed no opinion as to any such adjustments.

The full text of the written opinion of Leerink Partners, dated July 17, 2023, which describes the assumptions made and the qualifications and limitations upon the review undertaken by Leerink Partners in preparing its opinion, is attached as *Annex E* to this proxy statement/prospectus and is incorporated herein by reference. The summary of the written opinion of Leerink Partners set forth below is qualified in its entirety by the full text of the written opinion attached hereto as *Annex E*. **Leerink Partners' financial advisory services and opinion were provided for the information and assistance of the Neoleukin board of directors (in their capacity as directors and not in any other capacity) in connection with and for purposes of the Neoleukin board of directors' consideration of the merger, and the opinion of Leerink Partners addressed only the fairness, from a financial point of view, as of the date thereof, to Neoleukin of the exchange ratio proposed to be paid by Neoleukin pursuant to the terms of the Merger Agreement. The opinion of Leerink Partners did not address any other term or aspect of the Merger Agreement or the merger and does not constitute a recommendation to any stockholder of Neoleukin or Neurogene as to whether or how such holder should vote with respect to the merger or otherwise act with respect to the merger or any other matter.**

The full text of the written opinion of Leerink Partners should be read carefully in its entirety for a description of the assumptions made and the qualifications and limitations upon the review undertaken by Leerink Partners in preparing its opinion.

In connection with rendering the opinion described above and performing its related financial analyses, Leerink Partners reviewed, among other things:

- the proposed execution version of the Merger Agreement, as provided to Leerink Partners by Neoleukin on July 17, 2023;
- the proposed execution version of the CVR Agreement, as provided to Leerink Partners by Neoleukin on July 17, 2023
- Neoleukin's Annual Report on Form 10-K for the fiscal year ended December 31, 2022, as filed by Neoleukin with the SEC;
- Neoleukin's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2023, as filed by Neoleukin with the SEC;
- certain Current Reports on Form 8-K, as filed by Neoleukin with, or furnished by Neoleukin to, the SEC;
- certain internal information, primarily related to expense forecasts, relating to the business, operations, earnings, cash flow, assets, liabilities and prospects of Neoleukin, as furnished to Leerink Partners by the management of Neoleukin; and
- certain internal information relating to the business, operations, earnings, cash flow, assets, liabilities and prospects of Neurogene, including the Financial Forecasts prepared by management of Neoleukin, as furnished to, and approved for use by, Leerink Partners for purposes of Leerink Partners' analysis, as described above under "*The Merger—Financial Forecasts*," and which are collectively referred to in this summary of the opinion of Leerink Partners as the "Internal Data."

Leerink Partners also conducted discussions with members of the senior management of Neoleukin and Neurogene and their respective advisors and representatives regarding the Internal Data as well as the past and current business, operations, financial condition and prospects of each of Neoleukin and Neurogene. In addition, Leerink Partners reviewed certain financial data for Neurogene and compared that data to similar publicly available market, financial and other data for certain other companies, the securities of which are publicly traded, that Leerink Partners believed to be comparable in certain respects to Neurogene. Leerink Partners also conducted such other financial studies and analyses and took into account such other information as Leerink Partners deemed appropriate.

Leerink Partners assumed, without independent verification or any responsibility therefor, the accuracy and completeness of the financial, legal, regulatory, tax, accounting and other information supplied to, discussed with, or reviewed by Leerink Partners for purposes of its opinion and, with Neoleukin's consent, Leerink Partners relied upon such information as being complete and accurate. In that regard, Leerink Partners was advised by Neoleukin, and Leerink Partners assumed, at Neoleukin's direction, that the Internal Data (including, without limitation, the Financial Forecasts) were reasonably prepared on bases reflecting the best currently available estimates and judgments of the management of Neoleukin and Neurogene as to the matters covered thereby and Leerink Partners relied, at Neoleukin's direction, on the Internal Data for purposes of its analysis and its opinion. Leerink Partners expressed no view or opinion as to the Internal Data (including, without limitation, the Financial Forecasts) or the assumptions on which the Internal Data was based. The Neoleukin board of directors was aware that the management of Neoleukin did not provide Leerink Partners with, and Leerink Partners did not otherwise have access to, financial forecasts regarding Neoleukin's business, other than the expense forecasts described above. Accordingly, Leerink Partners did not perform a discounted cash flow analysis or any multiples-based analysis with respect to Neoleukin. In addition, at Neoleukin's direction, Leerink Partners did not make any independent evaluation or appraisal of any of the assets or liabilities (contingent, derivative, off-balance-sheet or otherwise) of Neoleukin or Neurogene, nor was Leerink Partners furnished with any such evaluation or appraisal, and Leerink Partners was not asked to conduct, and did not conduct, a physical inspection of the properties or assets of Neoleukin or Neurogene. Furthermore, at Neoleukin's direction, Leerink Partners ascribed no value to the CVRs issuable pursuant to the CVR Agreement.

Leerink Partners assumed, at Neoleukin's direction, that the final executed Merger Agreement and CVR Agreement would not differ in any respect material to Leerink Partners' analysis or its opinion from the last versions of the Merger Agreement and CVR Agreement reviewed by Leerink Partners. Leerink Partners also assumed, at Neoleukin's direction, that the representations and warranties made by Neurogene, Neoleukin and Merger Sub in the Merger Agreement were and would continue to be true and correct in all respects material to Leerink Partners' analysis. Furthermore, Leerink Partners assumed, at Neoleukin's direction, that the merger would be consummated on the terms set forth in the Merger Agreement and in accordance with all applicable laws and other relevant documents or requirements, without delay or the waiver, modification or amendment of any term, condition or agreement, the effect of which would be material to Leerink Partners' analysis or its opinion and that, in the course of obtaining the necessary governmental, regulatory and other approvals, consents, releases and waivers for the merger, no delay, limitation, restriction, condition or other change would be imposed, the effect of which would be material to Leerink Partners' analysis or its opinion. Leerink Partners did not evaluate and did not express any opinion as to the solvency or fair value of Neoleukin or Neurogene, or their respective abilities to pay their obligations when they come due, or as to the impact of the merger on such matters, under any state, federal or other laws relating to bankruptcy, insolvency, or similar matters. Leerink Partners is not a legal, regulatory, tax or accounting advisor, and Leerink Partners expressed no opinion as to any legal, regulatory tax or accounting matters. Leerink Partners expressed no view or opinion as to the price or range of prices at which the shares of stock or other securities or instruments of Neoleukin or any third party may trade at any time, including subsequent to the announcement or consummation of the merger.

Leerink Partners expressed no view as to, and the opinion of Leerink Partners did not address, Neoleukin's underlying business decision to proceed with or effect the merger, or the relative merits of the merger as compared to any alternative business strategies or transactions that might be available to Neoleukin or in which

Neoleukin might engage. The opinion of Leerink Partners was limited to and addressed only the fairness, from a financial point of view, as of the date of the opinion, to Neoleukin of the exchange ratio proposed to be paid by Neoleukin pursuant to the terms of the Merger Agreement. Leerink Partners was not asked to, and Leerink Partners did not, express any view on, and Leerink Partners' opinion did not address, any other term or aspect of the Merger Agreement or the transactions contemplated thereby, including, without limitation, the structure or form of the merger, or any other agreements or arrangements contemplated by the Merger Agreement or entered into in connection with or otherwise contemplated by the merger, including, without limitation, the fairness of the merger or any other term or aspect of the merger to, or any consideration to be received in connection therewith by, or the impact of the merger on, the holders of any class of securities, creditors or other constituencies of Neoleukin, Neurogene or any other party. In addition, Leerink Partners expressed no view or opinion as to the fairness (financial or otherwise) of the amount, nature or any other aspect of any compensation to be paid or payable to any of the officers, directors or employees of Neoleukin, Neurogene or any other party, or class of such persons in connection with the merger or the other transactions contemplated by the Merger Agreement, whether relative to the exchange ratio to be paid by Neoleukin pursuant to the terms of the Merger Agreement or otherwise. The opinion of Leerink Partners was necessarily based on financial, economic, monetary, currency, market and other conditions and circumstances as in effect on, and the information made available to Leerink Partners as of, the date of its written opinion, and Leerink Partners does not have any obligation or responsibility to update, revise or reaffirm its opinion based on circumstances, developments or events occurring after the date of the opinion. Leerink Partners' opinion does not constitute a recommendation to any stockholder of Neoleukin or Neurogene as to whether or how such stockholder should vote with respect to the merger or otherwise act with respect to the merger or any other matter.

Leerink Partners' financial advisory services and its opinion were provided for the information and assistance of the Neoleukin board of directors (in their capacity as directors and not in any other capacity) in connection with and for purposes of its consideration of the merger and the other transactions contemplated by the Merger Agreement. Leerink Partners' opinion was approved by the Leerink Partners LLC Fairness Opinion Review Committee.

Summary of Financial Analyses

The following is a summary of the material financial analyses prepared by Leerink Partners and reviewed with the Neoleukin board of directors in connection to Leerink Partners' opinion, which was delivered orally to the Neoleukin board of directors on July 17, 2023, and subsequently confirmed in its written opinion, dated July 17, 2023. For purposes of the analyses described below, Leerink Partners was directed to rely upon the Internal Data, including the Financial Forecasts. The summary set forth below does not purport to be a complete description of the financial analyses performed or factors considered by, and underlying the opinion of, Leerink Partners, nor does the order of the analyses described below represent the relative importance or weight given to those analyses by Leerink Partners. The preparation of a fairness opinion is a complex analytical process involving various determinations as to the most appropriate and relevant methods of financial analysis and the application of those methods to the particular circumstances and, therefore, a fairness opinion is not readily susceptible to summary description. In arriving at its opinion, Leerink Partners did not draw, in isolation, conclusions from or with regard to any factor or analysis that it considered. Accordingly, Leerink Partners believes that its analyses must be considered as a whole and that selecting portions of such analyses and factors without considering all analyses and factors, could create a misleading or incomplete view of the processes underlying Leerink Partners' financial analyses and its opinion.

Leerink Partners may have deemed various assumptions more or less probable than other assumptions, so the reference ranges resulting from any particular portion of the analyses summarized below should not be taken to be the view of Leerink Partners as to the actual value of Neoleukin or Neurogene. Some of the summaries of the financial analyses set forth below include information presented in tabular format. In order to fully understand the financial analyses, the tables must be read together with the text of each summary, as the tables alone do not constitute a complete description of the financial analyses performed by Leerink Partners. In its

analyses, Leerink Partners made numerous assumptions with respect to industry performance, general business and economic conditions and other matters, many of which are beyond the control of Neoleukin or any other parties to the merger and the other transactions contemplated by the Merger Agreement. None of Neoleukin, Neurogene, Merger Sub, Leerink Partners or any other person assumes responsibility if future results are materially different from those discussed. Any estimates contained in these analyses are not necessarily indicative of actual values or predictive of future results or values, which may be significantly more or less favorable than as set forth below. In addition, analyses relating to the value of Neoleukin or Neurogene do not purport to be appraisals or reflect the prices at which these companies may actually be sold. Accordingly, the assumptions and estimates used in, and the results derived from, the financial analyses are inherently subject to substantial uncertainty. Except as otherwise noted, the following quantitative information, to the extent that it is based on market data, is based on market data as it existed on or before July 17, 2023, and is not necessarily indicative of current market conditions.

Leerink Partners' financial analyses and opinion were only one of many factors taken into consideration by the Neoleukin board of directors in its evaluation of the merger, as described under "*The Merger—Neoleukin's Reasons for the Merger*." Consequently, the analyses described below should not be viewed as determinative of the views of the Neoleukin board of directors or management of Neoleukin with respect to the exchange ratio or as to whether the Neoleukin board of directors would have been willing to determine that a different exchange ratio was fair. The exchange ratio, as well as the type of consideration payable in the merger, was determined through arm's-length negotiations between Neoleukin and Neurogene and was approved by the Neoleukin board of directors. Leerink Partners provided advice to Neoleukin during these negotiations. However, Leerink Partners did not recommend any specific exchange ratio or other financial terms to Neoleukin or the Neoleukin board of directors nor that any specific exchange ratio or other financial terms constituted the only appropriate consideration for the merger.

In preparing its analysis, Leerink Partners took into account that the exchange ratio contained in the Merger Agreement is calculated by attributing equity values of $55.6 million and $295.0 million to Neoleukin and Neurogene, respectively, subject to certain adjustments related to Neoleukin's net cash and lease obligations set forth in the Merger Agreement, after giving effect to the Neurogene pre-closing financing of $95.0 million. Leerink Partners expressed no opinion as to any such adjustments. For purposes of its analysis, Leerink Partners utilized the estimated exchange ratio of 1.7378x shares of Neoleukin common stock for each share of Neurogene, based on Neoleukin's and Neurogene's respective capitalization as of July 17, 2023 (calculated using the treasury stock method). For additional information, see "*The Merger Agreement—Merger Consideration*" and "*The Merger Agreement—Exchange Ratio*."

Valuation Analysis—Discounted Cash Flow

A discounted cash flow analysis is a traditional valuation methodology used to derive a valuation of an asset or set of assets by calculating the "present value" of estimated future cash flows of the asset or set of assets. "Present value" refers to the current value of future cash flows or amounts and is obtained by discounting those future cash flows or amounts by a discount rate that takes into account assumptions and estimates of risk, the opportunity cost of capital, expected returns and other appropriate factors, and then adding the present value equivalent of the terminal value of the business at the end of the applicable projection period. A discounted cash flow analysis is a widely accepted valuation methodology for development stage biotechnology companies, including valuations of companies whose primary product candidate is still in development and for which regulatory authorization to market the applicable product candidate may not be obtained, if at all, until several years into the future. For purposes of its discounted cash flow analysis, at the direction of Neoleukin, Leerink Partners relied upon the Financial Forecasts. Leerink Partners was advised by Neoleukin, and assumed, at Neoleukin's direction, that the Financial Forecasts were reasonably prepared on bases reflecting the best currently available estimates and judgments of the management of Neoleukin as to the matters covered thereby. Leerink Partners was advised by Neoleukin that the Financial Forecasts included assumptions regarding competitive market entrants. Neoleukin advised Leerink Partners that it believed these probabilities of success

were reasonable, based on a review of publicly available studies and industry practice and Neoleukin management's professional experience. The Financial Forecasts, which Neoleukin management directed Leerink Partners to use in deriving its financial analyses, include cash flows through 2041, which is the year that patent protections for NGN-401 expire. Neoleukin advised Leerink Partners that it believed it was reasonable to forecast revenues through the patent life of NGN-401.

Leerink Partners' discounted cash flow analysis calculated the estimated present value of the stand-alone, unlevered, after-tax free cash flows that Neurogene was forecasted to generate from October 31, 2023, through December 31, 2041, which unlevered, after-tax free cash flows were derived from the Financial Forecasts. Leerink Partners estimated the net present value of unlevered, after-tax free cash flows after fiscal year 2041 by assuming an annual decline of 10% of such cash flows in perpetuity. These cash flows were discounted to present value as of October 31, 2023, using a discount rate ranging from 10% to 12%, derived from a weighted average cost of capital calculation for Neurogene, which Leerink Partners performed utilizing the capital asset pricing model with inputs that Leerink Partners determined were relevant based on publicly available data and Leerink Partners' professional judgment, including target capital structure, levered and unlevered betas for certain companies deemed by Leerink Partners to be comparable to Neurogene, and the equity market risk premium and yields for U.S. treasury bonds, and adjusted for Neurogene's estimated net cash balance of $42.0 million as of October 31, 2023, as provided by management of Neurogene, and estimated proceeds of $95.0 million from the Neurogene pre-closing financing, in order to derive an implied equity value range for Neurogene. This analysis resulted in an implied equity value for Neurogene of approximately $445 million to $560 million and a corresponding implied exchange ratio of approximately 2.6214x to 3.2989x.

Additional Factors Observed by Leerink Partners—Selected Public Companies

As additional factors not part of its financial analyses but noted for reference purposes, Leerink Partners reviewed publicly available information relating to the market capitalization of certain U.S.-listed publicly traded companies focused on the development of AAV-gene therapies with pre-commercial lead assets, selected based on Leerink Partners' professional judgment and experience. These companies, which are referred to as the "Selected Companies", were:

Company	Lead Relevant Program	Indication(s)	Stage of Development	Equity Value (in millions)	Enterprise Value (in millions)	Adjusted Equity Value (in millions)
Rocket Pharmaceuticals, Inc.	RP-A501	Danon Disease	Phase 1	$ 1,666	$ 1,306	$ 1,154
4D Molecular Therapeutics, Inc.	4D-150	Wet AMD	Phase 2	792	441	463
MeiraGTx Holdings plc	AAV-RPE65	RPE65-Deficiency	Phase 1/2	399	333	376
Tenaya Therapeutics, Inc.	TN-201	MYBPC3-Associated Hypertrophic Cardiomyopathy	Phase 1b	410	237	299
Voyager Therapeutics, Inc.	SOD1 Gene Therapy	ALS	Preclinical	437	139	221
Taysha Gene Therapies, Inc.	TSHA-102	Rett Syndrome in Adults	Phase 1/2	45	20	125
Decibel Therapeutics, Inc.	DB-OTO	OTOF-Related Hearing Loss	Phase 1/2	88	0	110

Leerink Partners noted that although such companies had certain financial and operating characteristics that could be considered similar to those of Neurogene, none of the companies had the same management, make-up, technology, size or mix of businesses as Neurogene and, accordingly, there were inherent limitations on the

applicability of such companies to the valuation analysis of Neurogene. In selecting the Selected Companies, based on its professional judgment and expertise, Leerink Partners excluded certain companies meeting the selection criteria described above. These companies were excluded because either (i) the company used technology that, in Leerink Partners' judgment, differed significantly enough from Neurogene's technology, (ii) in Leerink Partners' judgment, a substantial portion of the company's market value was attributable to non-AAV-gene therapy assets or other platform technologies, or (iii) the company traded at a negative enterprise value.

Leerink Partners calculated the aggregate enterprise value of each of the Selected Companies based upon the closing price of the common stock of each Selected Company on July 17, 2023, and the fully diluted number of shares outstanding, using the treasury stock method. Using the 25th and 75th percentile of the Selected Companies, Leerink Partners derived an enterprise value range for Neurogene and then added Neurogene's estimated net cash of $42.0 million as of October 31, 2023 and estimated proceeds of $95.0 million from the Neurogene pre-closing financing to derive an adjusted equity value range for Neurogene. Leerink Partners then applied a 20% illiquidity discount to this derived adjusted equity value range for Neurogene. The results of this analysis are summarized as follows:

	Neurogene Adjusted Equity Value (in millions)
25th Percentile	$ 173
75th Percentile	419

Leerink Partners compared these adjusted equity valuations to the proposed Neurogene valuation of $295.0 million based on the proposed valuation and ownership ratio in the Merger Agreement, after giving effect to the Neurogene pre-closing financing of $95.0 million, and also compared the resulting implied exchange ratio range of 1.0184x to 2.4707x to the estimated exchange ratio of 1.7378x.

General

Leerink Partners is a full-service securities firm engaged in securities trading and brokerage activities as well as investment banking and financial advisory services. In the ordinary course of business, Leerink Partners may in the future provide investment banking services to Neoleukin, Neurogene or their respective affiliates and would expect to receive customary fees for the rendering of such services. In the ordinary course of its trading and brokerage activities, Leerink Partners has in the past and may in the future hold positions, for its own account or the accounts of its customers, in equity, debt or other securities of Neoleukin, Neurogene or their respective affiliates.

Consistent with applicable legal and regulatory requirements, Leerink Partners has adopted policies and procedures to establish and maintain the independence of its research department and personnel. As a result, Leerink Partners' research analysts may hold views, make statements or investment recommendations and/or publish research reports with respect to Neoleukin, Neurogene and the merger and other participants in the merger that differ from the views of Leerink Partners' investment banking personnel.

Neoleukin selected Leerink Partners as its financial advisor in connection with the merger based on Leerink Partners' qualifications, reputation, experience and expertise in the biopharmaceutical industry, its knowledge of and involvement in recent transactions in the biopharmaceutical industry and its familiarity with Neoleukin and its business. Leerink Partners is an internationally recognized investment banking firm that has substantial experience in transactions similar to the merger and the other transactions contemplated by the Merger Agreement.

In connection with Leerink Partners' services as financial advisor to Neoleukin, Neoleukin has agreed to pay Leerink Partners an aggregate fee of $2.5 million, $500,000 of which became payable upon the rendering by

Leerink Partners of its opinion and the remainder of which is payable contingent upon consummation of the merger. In addition, Neoleukin has agreed to reimburse certain of Leerink Partners' expenses arising, and to indemnify Leerink Partners against certain liabilities that may arise, out of Leerink Partners' engagement. The terms of the fee arrangement between Leerink Partners and Neoleukin, which are customary in transactions of this nature, were negotiated at arm's length between Leerink Partners and Neoleukin, and the Neoleukin board of directors was aware of the arrangement, including the fact that a significant portion of the fee payable to Leerink Partners is contingent upon the completion of the merger and the other transactions contemplated by the Merger Agreement.

Interests of Neoleukin's Directors and Executive Officers in the Merger

In considering the recommendation of the Neoleukin board of directors with respect to issuing shares of Neoleukin common stock and pre-funded warrants in the merger and the other matters to be acted upon by the Neoleukin stockholders at the Neoleukin special meeting, the Neoleukin stockholders should be aware that Neoleukin's directors and executive officers have interests in the merger that are different from, or in addition to, the interests of Neoleukin's stockholders generally. These interests may present them with actual or potential conflicts of interest, and these interests, to the extent material, are described below.

The Neoleukin board of directors was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the merger, and to recommend that the Neoleukin stockholders approve the proposals to be presented to the Neoleukin stockholders for consideration at the Neoleukin special meeting as contemplated by this proxy statement/prospectus.

Ownership Interests

As of August 1, 2023, Neoleukin's current non-employee directors and executive officers beneficially owned, in the aggregate, approximately 44,021,429 shares of Neoleukin's common stock, which for purposes of this subsection excludes any Neoleukin shares issuable upon exercise or settlement of Neoleukin options or Neoleukin RSUs held by such individuals, and includes shares of Neoleukin's common stock held by affiliates of such directors and officers. The affirmative vote of a majority of votes properly cast by the holders of Neoleukin's common stock at the Neoleukin special meeting, assuming a quorum is present, is required for approval of Proposal Nos. 1, 2, 4, 5, 6 and 7. The affirmative vote of at least 66 2/3% of the voting power of all of the outstanding shares of Neoleukin common stock entitled to vote at the Neoleukin special meeting is required for approval of Proposal No. 3. As of August 1, 2023, certain Neoleukin stockholders who in the aggregate owned approximately 21% of the outstanding shares of Neoleukin have entered into a support agreement in connection with the merger. For a more detailed discussion of the support agreements, please see the section entitled "*Agreements Related to the Merger—Support Agreements*" beginning on page 175 of this proxy statement/prospectus.

As noted above, certain Neoleukin stockholders affiliated with a Neoleukin director also currently hold shares of Neoleukin common stock. The table below sets forth the ownership of Neoleukin's common stock by affiliates of Neoleukin's directors as of August 1, 2023.

Stockholder	Number of Shares of Common Stock Held
Baker Bros. Advisors LP and Affiliates(1)	10,043,077

(1) Based on information provided in a Schedule 13D/A and Form 4 filed with the SEC on July 19, 2023 and, with respect to certain securities, Neoleukin's records. The Schedule 13D/A was filed jointly by the Baker Bros. Advisors LP (the "Adviser"), Baker Bros. Advisors (GP) LLC (the "Adviser GP"), Felix J. Baker, and Julian C. Baker, with respect to shares held by the Funds (defined below), Felix J. Baker and Julian C. Baker, and certain stock options granted to a member of Neoleukin's board of directors. Current beneficial ownership of the Adviser, the Adviser GP, and Messrs. Baker consists of (i) 638,355 shares of common

stock issuable upon the exercise of pre-funded warrants held by 667, L.P. ("667"), (ii) 5,474,647 shares of common stock issuable upon the exercise of pre-funded warrants held by Baker Brothers Life Sciences, L.P. ("Life Sciences," and together with 667, the "Funds") and (iii) 103,250 shares of common stock issuable upon exercise of stock options held by M. Cantey Boyd exercisable within 60 days of August 1, 2023. In addition, Felix J. Baker and Julian C. Baker each directly hold 2,260 shares of common stock. Following notice provided to Neoleukin on July 17, 2023, as of 60 days after August 1, 2023, the pre-funded warrants will be exercisable only to the extent that after giving effect to such exercise the holders thereof and their affiliates would beneficially own no more than 19.99% of Neoleukin's outstanding common stock (the "Maximum Percentage"). Pursuant to the terms of the warrants, the Funds may from time to time provide written notice to Neoleukin to increase or decrease the Maximum Percentage applicable to that Fund to any other percentage not in excess of 19.99%. Any such change will not be effective until the 61st day after such notice is delivered to us. As a result of this restriction, the number of shares of common stock that may be issued upon exercise of the pre-funded warrants by the above holders may change depending upon changes in the outstanding shares of common stock. Without giving effect to the above beneficial ownership limitation, the pre-funded warrants that 667 holds would be exercisable for an aggregate of 1,199,122 shares of common stock and the pre-funded warrants that Life Sciences holds would be exercisable for an aggregate of 10,283,888 shares of common stock. Pursuant to management agreements, as amended, among the Adviser, the Funds and their respective general partners, the Funds respective general partners relinquished to the Adviser all discretion and authority with respect to the investment and voting power of the securities held by the Funds, and thus the Adviser has complete and unlimited discretion and authority with respect to the Funds' investments and voting power over investments. The Adviser GP, Felix J. Baker and Julian C. Baker, as managing members of the Adviser GP, and the Adviser may be deemed to be beneficial owners of securities of Neoleukin directly held by the Funds. M. Cantey Boyd, an employee of the Adviser, serves on Neoleukin's board of directors as a representative of the Funds and the Adviser may be deemed to beneficially own the securities received by Ms. Boyd as compensation for serving as a director. Pursuant to the policies of the Adviser, Ms. Boyd does not have any right to the pecuniary interest in securities received as compensation for serving as a director and the Funds are entitled to an indirect proportionate pecuniary interest in such securities.

On July 17, 2023, Neoleukin entered into a letter agreement with Adviser, pursuant to which the parties agreed to provide Adviser with certain rights to (i) nominate one person for election as a director of the combined company, provided that Adviser owns at least 12.5% of the combined company's then-outstanding voting common stock and (ii) enter into a Registration Rights Agreement with any Adviser entity who may be deemed an "affiliate" of the combined company.

Quantification of Potential Payments and Benefits to Neoleukin's Named Executive Officers

In accordance with Item 402(t) of Regulation S-K, the table below sets forth the estimated amount of payments and benefits that each of Neoleukin's named executive officers would or may receive in connection with the merger. The compensation described below is based on the employment and equity arrangements of each named executive officer with Neoleukin. It is currently expected that each of Ms. Cochener and Mr. Smith will have their employment terminated without cause immediately prior to the closing of the merger ("Closing"). It is possible that one or both of them will provide transitional consulting services to the combined company for some period post-closing, although no agreement with respect to any such services has been entered into. Consequently, no arrangements with Neurogene are included in the table below.

Please note that the amounts reported below are based on multiple assumptions that may or may not actually occur or be accurate on the relevant date, including assumptions described in footnotes to the table. For example, Neoleukin has assumed, among other matters, that (i) the equity holdings are determined based on the equity holdings as of August 1, 2023, the latest practicable date prior to the filing of this proxy statement, and therefore do not reflect any vesting, exercises or forfeitures that may occur between August 1, 2023 and the closing of the merger; (ii) each named executive officer experiences a "double-trigger" qualified termination (a termination

without “cause,” or resignation for “good reason”) in either case at or immediately prior to the closing of the merger, (iii) the closing of the merger occurs on November 15, 2023, for purposes of determining the pro-rata annual bonus payable upon a qualifying termination; and (iv) the value of a share of Neoleukin’s common stock at the closing is equal to $0.6802, which is the average closing price of Neoleukin’s common stock on each of the first five business days following the public announcement of the merger. The actual amounts payable to Neoleukin’s named executive officers will depend on whether the named executive officer experiences a qualifying termination, the date of termination (if any), the date of the closing, the price of a share of Neoleukin’s common stock on the closing, and the terms of any plans or arrangements, if any, entered into between the named executive officers and Neurogene and accordingly may differ materially from the amounts set forth below.

Golden Parachute Compensation

Name	Cash ($)	Equity ($)(1)	Perquisites/ benefits ($)(2)	Tax reimbursement ($)(3)	Total ($)
Donna M. Cochener	1,273,748(4)	—	18,671	—	$1,292,419
Sean Smith	1,034,608(5)	11,904	18,671	259,610	$1,324,793

(1) Represents the estimated value of the accelerated RSUs on the closing of the merger, based on 17,500 unvested RSUs as of August 1, 2023, and an estimated stock price of $0.6820. All of the unvested options held by named executive officers are out-of-the-money at the estimated stock price and therefore are not included in the table above. The amounts in this column would be payable regardless of whether the executive’s employment is terminated and therefore are “single trigger” in nature. As described in greater detail below in the section entitled “*—Treatment of Neoleukin Common Stock, Neoleukin Options, Neoleukin Existing Pre-Funded Warrants and Neoleukin RSUs”*, all then-outstanding Neoleukin RSUs and all then-outstanding unexpired, unexercised and unvested Neoleukin options with an exercise price per share less than $3.78 that is held by a current employee, director or consultant of Neoleukin as of immediately prior to the effective time, or who ceases to be a current employee, director or consultant of Neoleukin as of immediately prior to the effective time, will accelerate at the closing of the merger. As described above in “*—Executive Severance and Change in Control Arrangements”*, pursuant to the Neoleukin executive agreements, upon a qualifying termination within the period commencing 6 months prior to a change in control, which includes the merger, each of Ms. Cochener and Mr. Smith would also be entitled to acceleration of each of their then-outstanding Neoleukin RSUs and unvested options, if any.

(2) Represents reimbursement for up to 15 months of COBRA premiums paid by named executive officer for continued medical, vision and dental benefits on behalf of himself and his covered dependents, estimated based on current premiums and payable upon a qualifying termination of employment in connection with a change in control, which includes the merger, as described in further detail in “*—Executive Severance and Change in Control Arrangements*.” These amounts require a qualifying termination of employment and therefore are “double trigger” in nature.

(3) Ms. Cochener and Mr. Smith were promoted into new executive roles in 2023 and received increased compensation to reflect their increased responsibilities, as well as to incentivize them to remain employed through a change in control of Neoleukin. The merger is occurring in the same year as these changes, and consequently the increased payments may receive negative tax treatment under Section 280G and Section 4999 of the Code. In light of this, Neoleukin’s board of directors may provide each of Ms. Cochener and Mr. Smith with a closing cash bonus to mitigate the excise taxes that may be imposed by Section 280G and Section 4999 of the Code, up to a maximum of $350,000 in the aggregate and subject to a further cap required to ensure that the closing cash requirement in the merger agreement is satisfied. The amount reflected represents a preliminary estimate of the potential gross-up bonus that would be paid to Mr. Smith based on a preliminary 280G analysis which incorporates assumptions as permitted under Section 280G of the Code. It is currently expected that Ms. Cochener will not receive a gross-up bonus. The amounts reflected are solely estimates and may differ materially from any actual tax gross-up bonus paid by Neoleukin; provided, however that in no event will any such bonus be greater than $350,000 in the aggregate. The gross-up bonus would be paid at the closing regardless of any qualifying termination of

employment and is therefore "single-trigger" in nature, but the estimate provided assumes that Mr. Smith experiences a qualifying termination of employment at the closing of the merger.

(4) Represents (i) $219,375 retention bonus, (ii) $191,953 pro-rated annual bonus (pro-rated through November 15, 2023), (iii) $862,421 cash severance (comprised of 15 months of salary ($562,500) and 15 months of target bonus ($281,250)), each payable upon a qualifying termination of employment in connection with a change in control, which includes the merger, as described in further detail in "*—Executive Severance and Change in Control Arrangements*." The retention bonus would also be paid on the merger, subject to Ms. Cochener's continued employment through the closing of the merger regardless of whether Ms. Cochener had a qualifying termination of employment, as described in further detail in "*—Executive Severance and Change in Control Arrangements*" and is therefore "single trigger" in nature. The other amounts require a qualifying termination of employment and are therefore "double trigger" in nature.

(5) Represents (i) $159,167 retention bonus, (ii) $139,271 pro-rata annual bonus (pro-rated through November 15, 2023), (iii) $736,171 cash severance (comprised of 15 months of base salary ($512,500) and 15 months of target bonus ($205,000)), in each case payable upon a qualifying termination of employment in connection with a change in control, which includes the merger, as described in further detail in "*—Executive Severance and Change in Control Arrangements*." The retention bonus would also be paid on the merger, subject to Mr. Smith's continued employment through the closing of the merger, regardless of whether Mr. Smith had a qualifying termination of employment, as described in further detail in "*—Executive Severance and Change in Control Arrangements*" and is therefore "single trigger" in nature. The other amounts require a qualifying termination of employment merger and are therefore "double trigger" in nature.

None of Neoleukin's other named executive officers will receive any change in control or severance payments within the meaning of Section 402(t) of Regulation S-K.

Treatment of Neoleukin Stock Options, Neoleukin RSUs and Neoleukin ESPP

Under the Merger Agreement, each unexpired, unexercised and unvested Neoleukin option that has an exercise price per share less than $3.78 that is held by a current employee, director or consultant of Neoleukin as of immediately prior to the effective time (or who ceases to be a current employee, director or consultant of Neoleukin as of immediately prior to the effective time), will be accelerated in full immediately prior to the effective time, contingent upon the occurrence of the closing. All outstanding Neoleukin RSUs that vest solely on the basis of time will be accelerated in full as of immediately prior to the effective time, contingent upon the occurrence of the closing and settled in shares of Neoleukin common stock immediately prior to the effective time.

In addition, under the Merger Agreement, no Neoleukin employee who is not already a participant in any offering period under the Current ESPP Offering Period (as defined in the Neoleukin ESPP) may become a participant and no participant may increase the amount of his or her payroll deduction election from that amount in effect on the date of the Merger Agreement for such Current ESPP Offering Period. The Neoleukin 2020 Employee Stock Purchase Plan (the "Neoleukin ESPP") will be suspended and no new offering period will commence under the Neoleukin ESPP prior to the termination of the Merger Agreement. If any Current ESPP Offering Period is still in effect at the effective time, then the last day of such Current ESPP Offering Period will be accelerated to a date before Closing as determined by the Neurogene board of directors (or relevant committee thereof) in its discretion.

Equity Interests of Neoleukin Executive Officers and Directors

Neoleukin's directors and executive officers hold Neoleukin options and/or Neoleukin RSUs which, pursuant to the Merger Agreement, will be treated as set forth in the section entitled "*The Merger Agreement—Treatment of Neoleukin Common Stock, Neoleukin Options, Neoleukin Existing Pre-Funded Warrants and*

Neoleukin RSUs" on page 157 of this proxy statement/prospectus. The table below sets forth information with respect to the Neoleukin options and Neoleukin RSUs held by each of Neoleukin's directors and executive officers as of August 1, 2023, the latest practicable date prior to the filing of this proxy statement/prospectus. This date has been selected for illustrative purposes only, and does not reflect the date on which certain events will or may occur, if at all. For more information on the equity holdings of Neoleukin directors and executive officers, see the table in "*Principal Stockholders of Neoleukin*" on page 352 of this proxy statement/prospectus. The value of the equity awards in the table below is determined using an estimated value of a share of Neoleukin common stock equal to the average closing market price of Neoleukin's common stock over the first five business days following the first public announcement of the merger, which may not be the value of Neoleukin's common stock on the actual closing of the merger.

Holder Name	Grant Date (1)	Expiration Date (2)	Exercise Price per share ($)	Number of Vested Shares of Common Stock Underlying Options as of August 1, 2023	Number of Unvested Shares of Common Stock Underlying Options as of August 1, 2023	Number of Unvested Shares of Common Stock Underlying RSUs as of August 1, 2023	Value of Accelerated Vesting of Award ($)
Executive Officers							
Donna M. Cochener (Chief Executive Officer)	3/14/2022	3/13/2032	$ 1.81	55,248	135,496	—	—
	3/14/2022	3/13/2032	1.81	78,085	131,171	—	—
	8/2/2022	8/1/2032	0.99	—	16,670	—	—
	8/2/2022	8/1/2032	0.99	—	83,330	—	—
Sean Smith (Chief Financial Officer)	10/10/2019	10/9/2029	2.71	24,375	1,625	—	—
	8/10/2020	8/10/2030	12.00	10,938	4,062	—	—
	8/10/2020			—	—	5,000	3,400
	8/3/2021	8/2/2031	6.80	8,122	9,375	—	—
	8/3/2021	8/2/2031	6.80	503	—	—	—
	8/3/2021	8/2/2031	6.80	875	3,054	—	—
	8/3/2021	8/2/2031	6.80	2,000	71	—	—
	2/1/2022			—	—	12,500	8,500
	3/2/2022	3/1/2032	2.72	1	35,735	—	—
	3/2/2022	3/1/2032	2.72	26,666	17,598	—	—
	8/2/2022	8/1/2032	0.99	—	43,585	—	—
	8/2/2022	8/1/2032	0.99	—	106,415	—	—
Former Executive Officers							
Jonathan Drachman (Former Chief Executive Officer)	8/31/2019	9/30/2024	2.80	1,478,125	—	—	—
	8/10/2020	9/30/2024	12.00	24,999	—	—	—
	8/10/2020	9/30/2024	12.00	246,251	—	—	—
	8/3/2021	9/30/2024	6.80	—	—	—	—
	8/3/2021	9/30/2024	6.80	158,333	—	—	—
	8/2/2022	9/30/2024	0.99	58,347	—	—	—
	8/2/2022	9/30/2024	0.99	291,653	—	—	—
Priti Patel (Former Chief Medical Officer)	4/30/2021	—	—	—	—	—	—
	4/30/2021	6/30/2023	12.49	—	—	—	—
	4/30/2021	6/30/2023	12.49	—	—	—	—

Holder Name	Grant Date (1)	Expiration Date (2)	Exercise Price per share ($)	Number of Vested Shares of Common Stock Underlying Options as of August 1, 2023	Number of Unvested Shares of Common Stock Underlying Options as of August 1, 2023	Number of Unvested Shares of Common Stock Underlying RSUs as of August 1, 2023	Value of Accelerated Vesting of Award ($)
	8/3/2021	6/30/2023	6.80	—	—	—	—
	2/1/2022	—	—	—	—	—	—
	8/2/2022	3/31/2024	0.99	41,682	—	—	—
	8/2/2022	3/31/2024	0.99	58,318	—	—	—
Directors							
Martin Babler	9/8/2020	9/8/2030	12.25	33,333	16,667	—	—
	5/11/2021	5/10/2031	11.40	25,000	—	—	—
	5/12/2022	5/11/2032	1.07	25,000	—	—	—
	6/8/2023	6/7/2033	0.79	2,083	22,917	—	—
M. Cantey Boyd	10/10/2019	10/9/2029	2.82	22,000	—	—	—
	5/5/2020	5/5/2030	12.84	25,000	—	—	—
	5/11/2021	5/10/2031	11.40	25,000	—	—	—
	5/12/2022	5/11/2032	1.07	25,000	—	—	—
	6/8/2023	6/7/2033	0.79	2,083	22,917	—	—
Erin Lavelle	6/1/2020	6/1/2030	13.58	50,000	—	—	—
	5/11/2021	5/10/2031	11.40	25,000	—	—	—
	5/12/2022	5/11/2032	1.07	25,000	—	—	—
	6/8/2023	6/7/2033	0.79	2,083	22,917	—	—
Sarah Noonberg	10/10/2019	10/9/2029	2.82	22,000	—	—	—
	5/5/2020	5/5/2030	12.84	25,000	—	—	—
	5/11/2021	5/10/2031	11.40	25,000	—	—	—
	5/12/2022	5/11/2032	1.07	25,000	—	—	—
	6/8/2023	6/7/2033	0.79	2,083	22,917	—	—
Rohan Palekar	3/2/2022	3/1/2032	2.72	16,666	33,334	—	—
	5/12/2022	5/11/2032	1.07	25,000	—	—	—
	6/8/2023	6/7/2033	0.79	2,083	22,917	—	—
Todd Simpson	3/6/2014	3/5/2024	11.00	8,333	—	—	—
	3/12/2015	3/11/2025	12.03	5,000	—	—	—
	5/9/2016	5/8/2026	7.73	7,500	—	—	—
	5/8/2017	5/7/2027	13.74	9,000	—	—	—
	5/7/2018	5/6/2028	13.10	15,000	—	—	—
	10/10/2019	10/9/2029	2.82	22,000	—	—	—
	5/5/2020	5/5/2030	12.84	25,000	—	—	—
	5/11/2021	5/10/2031	11.40	25,000	—	—	—
	5/12/2022	5/11/2032	1.07	25,000	—	—	—
	6/8/2023	6/7/2033	0.79	2,083	22,917	—	—

Director Positions Following the Merger

The Neoleukin board of directors currently consists of six members and is currently divided into three classes of directors with two directors in Class I, one director in Class II and three directors in Class III. Each director serves for a term ending on the date of the third annual meeting following the annual meeting at which he or she was elected and until his or her successor is duly elected and qualified. The terms and members of each class of directors are as follows:

- Class I directors whose term expires at the date of the annual meeting in 2024: Martin Babler and Erin Lavelle;
- Class II directors whose term expires at the annual meeting in 2025: Sarah B. Noonberg; and
- Class III directors whose term expires at the date of the annual meeting in 2026: M. Cantey Boyd, Todd Simpson and Rohan Palekar.

Following the merger, two of the current Neoleukin directors will serve as directors of the combined company and the combined company's directors will consist of seven members, with five directors designated by Neurogene, including Rachel McMinn, Robert Baffi, Cory Freedland and Srdjan Stankovic, and two directors designated by Neoleukin, Rohan Palekar and Sarah Noonberg.

There are no family relationships among any of the current Neoleukin directors and executive officers, and there are no family relationships among any of the proposed combined company directors and officers.

Indemnification and Insurance

For a discussion of the indemnification and insurance provisions related to the Neoleukin directors and officers under the Merger Agreement, please see the section entitled "*The Merger Agreement—Indemnification and Insurance for Directors and Officers*" beginning on page 167 below.

Director Compensation

Neoleukin compensates its non-employee directors for their service on the Neoleukin board of directors pursuant to its director compensation program. Non-employee members of the Neoleukin board of directors receive cash compensation, payable in equal quarterly installments, in arrears. Pursuant to the director compensation program, non-employee directors are also eligible to receive initial and annual grants of stock options. Each initial stock option grant vests on a three-year, annual vesting schedule from the date such director joins the Neoleukin board of directors. Each annual stock option granted to Neoleukin's non-employee directors vests on a one-year, monthly vesting schedule as of the date of such annual meeting. Neoleukin also reimburses its non-employee directors for reasonable travel and out-of-pocket expenses incurred in connection with attending its board of director and committee meetings.

Executive Severance and Change in Control Arrangements

Each of Ms. Cochener and Mr. Smith are parties to amended employment agreements with Neoleukin (the "Neoleukin executive agreements"). The Neoleukin executive agreements provide that the executives will be entitled to (a) an annual bonus for 2023 of not less than $159,167 for Mr. Smith and $219,375 for Ms. Cochener, which will be prorated in the event such executive is terminated without "cause" or resigns for "good reason", as those terms are defined in the Neoleukin executive agreements, prior to December 31, 2023 (b) a retention bonus of $159,167 for Mr. Smith and $219,375 for Ms. Cochener, payable upon (i) a "change of control," as that term is defined the Neoleukin executive agreements and which includes the closing of the merger, (ii) a termination of employment by Neoleukin without cause or resignation by the executive for good reason or (iii) December 31, 2023; provided that the executive has remained in his or her role through the triggering event for such payment.

In the event of a termination of Ms. Cochener or Mr. Smith's employment without cause or resignation of their employment for good reason within the period commencing six months prior to and ending twelve months following a change in control, the executive would be entitled to receive a lump sum payment equal to (a) 15 months of the executive's base salary, (b) 125% of the executive's annual bonus amount, (c) 15 months of COBRA coverage for the executive and his or her family, (d) acceleration of all outstanding equity awards and (e) an extension of the post-separation exercise period of such executives stock options to 15 months after separation; provided, that in the event the termination or resignation preceded the change in control, such change in control occurs by March 1 of the following year. All severance/separation payments would be conditioned on receipt of a standard release of claims from the executive at the time of separation.

Limitations of Liability and Indemnification

In addition to the indemnification obligations required by Neoleukin's charter and bylaws, Neoleukin has entered into indemnification agreements with each of its directors and officers. These agreements provide for the indemnification of Neoleukin's directors and executive officers for all reasonable expenses and liabilities incurred in connection with any action or proceeding brought against them by reason of the fact that they are or were agents of Neoleukin. Neoleukin believes that these charter and bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers.

Interests of Neurogene's Directors and Executive Officers in the Merger

In considering the recommendation of the Neurogene board of directors with respect to approving the merger, stockholders should be aware that Neurogene's directors and executive officers have interests in the merger that are different from, or in addition to, the interests of Neurogene stockholders generally. These interests may present them with actual or potential conflicts of interest, and these interests, to the extent material, are described below.

The board of directors of Neurogene was aware of these potential conflicts of interest and considered them, among other matters, in reaching its decision to approve the Merger Agreement and the merger, and to recommend that the Neurogene stockholders approve the merger as contemplated by this proxy statement/prospectus.

Ownership Interests

As of August 1, 2023, Neurogene's current non-employee directors and executive officers beneficially owned, in the aggregate approximately 15% of the shares of Neurogene capital stock, which for purposes of this subsection excludes any Neurogene shares issuable upon exercise or settlement of Neurogene options held by such individual. Each of Neurogene's officers, directors and affiliated stockholders have also entered into a support agreement in connection with the merger. For a more detailed discussion of the support agreements, please see the section entitled "*Agreements Related to the Merger—Support Agreements*" beginning on page 175 of this proxy statement/prospectus.

Certain Neurogene stockholders affiliated with Neurogene's directors also currently hold shares of Neurogene capital stock. The table below sets forth the ownership of Neurogene capital stock by affiliates of Neurogene's directors as of August 1, 2023.

Stockholder	Number of Shares of Capital Stock Held
Entities affiliated with Baker Brothers Investments	21,443,956
Entities affiliated with EcoR1 Capital Fund, L.P.	14,487,227
Samsara BioCapital, L.P.	11,752,192

Treatment of Neurogene Options

Under the terms of the Merger Agreement, each Neurogene option that is outstanding under Neurogene's 2018 Equity Incentive Plan ("2018 Plan") and, if applicable, unexercised immediately prior to the effective time and that, following assumption by Neoleukin at the effective time, will be eligible to be registered on Form S-8, whether or not vested, will be converted into an option to purchase shares of Neoleukin common stock. Neoleukin will assume the 2018 Plan and each such outstanding Neurogene option in accordance with the terms (as in effect as of the date of the Merger Agreement) of Neurogene's 2018 Plan and the terms of the stock option agreement by which such Neurogene options are evidenced. The table below sets forth information regarding the Neurogene options held as of August 1, 2023 by each of Neurogene's current executive officers and non-employee directors. The number of shares of common stock underlying such options will be adjusted appropriately to reflect the exchange ratio.

Name	Number of Vested Options Held	Weighted Average Exercise Price of Vested Options	Number of Unvested Options Held	Weighted Average Exercise Price of Unvested Options
Executive Officers				
Rachel McMinn	267,084	$ 0.77	582,122	$ 1.45
Christine Mikail	715,000	$ 0.63	684,584	$ 1.23
Stuart Cobb	478,072	$ 0.85	503,745	$ 1.36
Non-Employee Directors				
Robert Baffi	82,500	$ 1.23	71,500	$ 1.57
Stephen Biggar	—	—	—	—
Cory Freedland	—	—	—	—
Srdjan Stankovic	82,500	$ 1.03	71,500	$ 1.57
Caroline Stout	—	—	—	—

Management Following the Merger

As described in the section captioned "*Management Following the Merger*" beginning on page 313 of this proxy statement/prospectus, certain of Neurogene's directors and executive officers are expected to become the directors and executive officers of the combined company upon the closing of the merger.

Indemnification and Insurance

For a discussion of the indemnification and insurance provisions related to the Neurogene directors and officers under the Merger Agreement, please see the section entitled "*The Merger Agreement—Indemnification and Insurance for Directors and Officers*" beginning on page 167 of this proxy statement/prospectus.

Form of the Merger

Subject to the terms and conditions of the Merger Agreement, and in accordance with Delaware law, at the completion of the merger, Merger Sub, a wholly owned subsidiary of Neoleukin formed by Neoleukin in connection with the merger, will merge with and into Neurogene, with Neurogene surviving as a wholly owned subsidiary of Neoleukin.

Merger Consideration and Adjustment

At the effective time, upon the terms and subject to the conditions set forth in the Merger Agreement, each outstanding share of Neurogene capital stock (including shares of Neurogene common stock, shares of Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing

financing) (excluding shares of Neurogene common stock to be canceled pursuant to the Merger Agreement and excluding dissenting shares) will be automatically converted solely into the right to receive a number of shares of Neoleukin common stock or Neoleukin pre-funded warrants entitling the holder thereof to purchase shares of Neoleukin common stock, as elected by the Neurogene stockholder and calculated in accordance with the Merger Agreement, equal to the exchange ratio described in more detail in the sections entitled "*The Merger Agreement—Merger Consideration*" and "*The Merger Agreement—Exchange Ratio*" beginning on page 152 of this proxy statement/prospectus. Any holder of Neurogene capital stock will be automatically considered to have elected to receive Neoleukin pre-funded warrants to the extent necessary to prevent such holder from beneficially owning more than 9.99% of the outstanding shares of Neoleukin common stock following the consummation of the merger. Other than as provided in the preceding sentence, if any holder of Neurogene capital stock fails to make any such election, such holder will be deemed to have elected to receive shares of Neoleukin common stock.

In addition, at the effective time, upon the terms and subject to the conditions set forth in the Merger Agreement, each Neurogene pre-funded warrant will be automatically converted into and exchanged for a Neoleukin pre-funded warrant entitling such holder of Neurogene pre-funded warrant to purchase shares of Neoleukin common stock equal to the product of the number of shares of Neurogene common stock that would have been issuable upon exercise of the Neurogene pre-funded warrant and the exchange ratio and such Neoleukin pre-funded warrant shall have an exercise price equal to the exercise price per share of the Neurogene pre-funded warrant divided by the exchange ratio as described in more detail in the sections entitled "*The Merger Agreement—Merger Consideration*" and "*The Merger Agreement—Exchange Ratio*" beginning on page 152 of this proxy statement/prospectus.

No fractional shares of Neoleukin common stock will be issued in connection with the merger, and no certificates or scrip for any such fractional shares will be issued. Any fractional shares of Neoleukin common stock resulting from the conversion of shares of Neurogene capital stock (including shares of Neurogene common stock, shares of Neurogene preferred stock, and shares of Neurogene common stock issued in the Neurogene pre-closing financing) into the right to receive a number of Neoleukin common stock equal to the exchange ratio or from the settlement of Neurogene options pursuant to the Merger Agreement (after aggregating all fractional shares of Neoleukin common stock issuable to such holder) will be rounded to the nearest whole share of Neoleukin common stock, with no cash being paid for any fractional share of Neoleukin common stock eliminated by such rounding.

Determination of Neoleukin's Net Cash

Pursuant to the terms of the Merger Agreement, Neoleukin's "net cash" means, as of the cash determination time (which is as of 11:59 p.m. Eastern Time on the last business day prior to the anticipated closing date) the sum (without duplication) of the following:

- Neoleukin's unrestricted cash and cash equivalents and marketable securities determined, to the extent in accordance with GAAP, in a manner consistent with the manner in which such items were historically determined and in accordance with the financial statements (including any related notes) contained or incorporated by reference in Neoleukin's SEC filings or Neoleukin's balance sheet;
- all Neoleukin's prepaid expenses, receivables, deposits and restricted cash (which, for the avoidance of doubt, shall include any restricted cash underlying the Neoleukin lease letter of credit); and
- net proceeds due to Neoleukin or it subsidiary at closing, or as mutually agreed in good faith, otherwise in connection with any Neoleukin legacy transaction (in each case, net of any indemnification obligations, expenses, fees, taxes, accrued or payable to Neoleukin or its subsidiary that are attribute to such Neoleukin legacy transaction); and

minus the sum (without duplication) of the following:

- Neoleukin's consolidated short-term and long-term contractual obligations and accrued liabilities (other than any liability accrued with respect to obligations pursuant to the Neoleukin lease agreements), in each case determined in accordance with GAAP and, to the extent in accordance with GAAP, in a manner consistent with the manner in which such items were historically determined and in accordance with the financial statements (including any related notes) contained or incorporated by reference in Neoleukin's SEC filings or Neoleukin's balance sheet (which, for the avoidance of doubt, will include anticipated costs with respect to the winding down of the NL-201 clinical trial, without duplication, net of any deposits made in connection with such activities);
- fees and expenses incurred with respect to the transaction payable by Neoleukin or its subsidiary, including for the avoidance of doubt, the transaction expenses of Neoleukin to the extent unpaid as of closing and the fees and expenses underlying any engagement set forth on the Neoleukin disclosure schedule;
- the aggregate costs associated with obtaining the D&O tail policy contemplated by the Merger Agreement;
- the lease negotiation holdback; and
- the CVR holdback for the disposition of Neoleukin's legacy business.

No later than five business days prior to the anticipated closing date, Neoleukin will deliver to Neurogene a net cash schedule setting forth, in reasonable detail, Neoleukin's good faith estimated calculation of its net cash at the cash determination time, prepared and certified by Neoleukin's chief financial officer (or if there is no chief financial officer, the principal financial and accounting officer), and, if requested, the relevant work papers and back-up materials used or useful in preparing the net cash schedule. No later than three business days after the cash determination time (the last day of such period referred to as the response date), Neurogene will have the right to dispute any part of the net cash schedule by delivering a written notice to that effect to Neoleukin (referred to herein as a dispute notice). Any dispute notice will identify, in reasonable detail and, to the extent known, the nature and amounts of any proposed revisions to Neoleukin's net cash calculation.

If Neurogene disputes the net cash schedule, the parties shall attempt in good faith to resolve the disputed items and negotiate an agreed-upon determination of net cash. If the parties are unable to negotiate an agreed-upon determination of net cash or any component thereof within three days after the delivery of Neurogene's dispute notice, any remaining disagreements will be referred to an independent auditor of recognized national standing mutually agreed upon by Neoleukin and Neurogene. The determination of the amount of net cash made by such auditor shall be final and binding on Neoleukin and Neurogene.

Neoleukin's net cash balance is subject to numerous factors, some of which are outside of Neoleukin's control. The actual amount of net cash will depend significantly on the timing of the closing of the merger. In addition, the closing of the merger could be delayed if Neoleukin and Neurogene are not able to agree upon the amount of Neoleukin's net cash as of the cash determination time.

Procedures for Exchanging Stock Certificates

Prior to the closing date, Neoleukin and Neurogene will select an exchange agent and, at the effective time, Neoleukin will deposit with the exchange agent evidence of book-entry shares representing the shares of Neoleukin common stock issuable pursuant to the terms of the Merger Agreement in exchange for shares of Neurogene capital stock (including shares of Neurogene common stock, shares of Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing financing) (excluding shares of Neurogene common stock to be canceled pursuant to the Merger Agreement and excluding dissenting shares).

Promptly after the effective time, the exchange agent will mail to each record holder of Neurogene capital stock (including shares of Neurogene common stock, shares of Neurogene preferred stock and shares of

Neurogene common stock issued in the Neurogene pre-closing financing) (excluding shares of Neurogene common stock to be canceled pursuant to the Merger Agreement and excluding dissenting shares) and Neurogene pre-funded warrants (i) a letter of transmittal and (ii) instructions for surrendering the record holder's stock certificates in exchange for the merger consideration or Neoleukin pre-funded warrants in lieu thereof. Upon delivery to the exchange agent of a duly executed letter of transmittal in accordance with the exchange agent's instructions and the declaration for tax withholding purposes, the surrender of the record holder's stock certificates, if applicable, and delivery to the exchange agent of such other documents as may be reasonably required by the exchange agent or Neoleukin, the record holder of such stock certificates or book-entry shares, as applicable, will be entitled to receive in exchange therefor book-entry shares representing the number of whole shares of Neoleukin common stock issuable to such holder pursuant to the Merger Agreement or Neoleukin pre-funded warrants, in lieu thereof. The surrendered certificates representing shares of Neurogene capital stock will be canceled. Any holder of Neurogene capital stock will be automatically considered to have elected to receive Neoleukin pre-funded warrants to the extent necessary to prevent such holder from beneficially owning more than 9.99% of the outstanding shares of Neoleukin common stock following the consummation of the merger. Other than as provided in the preceding sentence, if any holder of Neurogene capital stock fails to make any such election, such holder will be deemed to have so elected to receive shares of Neoleukin common stock.

After the effective time, each certificate representing Neurogene capital stock that has not been surrendered will represent only the right to receive shares of Neoleukin common stock issuable pursuant to the Merger Agreement to which the holder of any such certificate is entitled, and each Neurogene pre-funded warrant that has not been surrendered will represent only the right to receive a Neoleukin pre-funded warrant exercisable for shares of Neoleukin common stock pursuant to the Merger Agreement to which the warrant holder in entitled.

HOLDERS OF NEUROGENE COMMON STOCK OR NEUROGENE PREFERRED STOCK SHOULD NOT SEND IN THEIR NEUROGENE STOCK CERTIFICATES UNTIL THEY RECEIVE A LETTER OF TRANSMITTAL FROM THE EXCHANGE AGENT WITH INSTRUCTIONS FOR THE SURRENDER OF NEUROGENE STOCK CERTIFICATES.

Effective Time

The Merger Agreement requires the parties to consummate the merger as promptly as practicable (and in any event within two business days) after all of the conditions to the consummation of the merger contained in the Merger Agreement are satisfied or waived, including the adoption of the Merger Agreement by the Neurogene stockholders and the approval by the Neoleukin stockholders of the issuance of Neoleukin common stock and the other transactions proposed under the Merger Agreement, other than those conditions that by their nature are to be satisfied at the closing of the merger. The merger will become effective upon the filing of a certificate of merger with the Secretary of State of the State of Delaware or at such later time as is agreed by Neoleukin and Neurogene and specified in the certificate of merger. Neither Neoleukin nor Neurogene can predict the exact timing of the consummation of the merger.

Regulatory Approvals

In the United States, Neoleukin must comply with applicable federal and state securities laws and the rules and regulations of Nasdaq in connection with the issuance of shares of Neoleukin common stock to Neurogene's stockholders in connection with the transactions contemplated by the Merger Agreement and the filing of this proxy statement/prospectus with the SEC. Neoleukin does not intend to seek any regulatory approval from antitrust authorities to consummate the transactions.

Material U.S. Federal Income Tax Considerations of the Merger

The following discussion is a summary of U.S. federal income tax considerations generally applicable to U.S. holders (as defined below) of Neurogene common stock who exchange shares of Neurogene common stock

for shares of Neoleukin common stock pursuant to the merger. This section applies only to persons that hold their Neurogene common stock as capital assets for U.S. federal income tax purposes (generally, property held for investment). This discussion is a summary only and does not discuss all aspects of U.S. federal income taxation that may be relevant to holders in light of their particular circumstances or status including:

- brokers, dealers or traders in securities, banks, insurance companies, other financial institutions or mutual funds;
- real estate investment trusts; regulated investment companies; tax-exempt organizations or governmental organizations;
- controlled foreign corporations, passive foreign investment companies, pass-through entities such as partnerships, S corporations, disregarded entities for federal income tax purposes and limited liability companies (and investors therein);
- persons who hold their shares as part of a hedge, wash sale, synthetic security, conversion transaction or other integrated transaction;
- persons that have a functional currency other than the U.S. dollar;
- persons that actually or constructively own five percent or more of Neurogene voting shares or five percent or more of the total value of all classes of shares of Neurogene;
- taxpayers that are subject to the mark-to-market accounting rules;
- persons who hold shares of Neurogene common stock that constitute “qualified small business stock” under Section 1202 of the Code or as “Section 1244 stock” for purposes of Section 1244 of the Code or who acquired Neurogene common stock in a transaction subject to the gain rollover provisions of Section 1045 of the Code;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to Neurogene common stock being taken into account in an “applicable financial statement” (as defined in the Code);
- persons that hold securities in Neurogene as part of a straddle, constructive sale, hedging, conversion or other integrated or similar transaction;
- persons holding Neurogene common stock who exercise dissenters’ rights;
- persons who acquired their shares of Neurogene common stock pursuant to the exercise of options or otherwise as compensation or through a tax-qualified retirement plan or through the exercise of a warrant or conversion rights under convertible instruments; and
- expatriates or former citizens or long-term residents of the United States.

This discussion is based on the Code, proposed, temporary and final Treasury Regulations promulgated under the Code, and judicial and administrative interpretations thereof, all as of the date hereof. All of the foregoing is subject to change, which change could apply retroactively and could affect the tax considerations described herein. This discussion does not address U.S. federal taxes other than those pertaining to U.S. federal income taxation (such as estate or gift taxes, the alternative minimum tax or the Medicare tax on investment income), nor does it address any aspects of U.S. state or local or non-U.S. taxation.

We have not and do not intend to seek any rulings from the IRS regarding the merger. There can be no assurance that the IRS will not take positions inconsistent with the considerations discussed below or that any such positions would not be sustained by a court.

If any entity or arrangement classified as a partnership for U.S. federal income tax purposes holds Neurogene common stock, the tax treatment of such partnership and any person treated as a partner of such

partnership will generally depend on the status and activities of the partner and the activities of the partnership. Partnerships holding any Neurogene common stock and persons that are treated as partners of such partnerships should consult their tax advisors as to the particular U.S. federal income tax considerations of the merger to them.

As used herein, a "U.S. holder" is a beneficial owner of Neurogene common stock that is for U.S. federal income tax purposes:

- an individual citizen or resident of the United States;
- corporation (or other entity that is treated as a corporation for U.S. federal income tax purposes) that is created or organized (or treated as created or organized) in or under the laws of the United States or any state thereof or the District of Columbia or otherwise treated as a U.S. tax resident for U.S. federal income tax purposes;
- an estate whose income is subject to U.S. federal income tax regardless of its source; or
- a trust if (1) a U.S. court can exercise primary supervision over the administration of such trust and one or more "United States persons" (within the meaning of Section 7701(a)(30) of the Code) have the authority to control all substantial decisions of the trust or (2) it has a valid election in place to be treated as a United States person.

Effects of the Merger

The parties to the Merger Agreement intend for the merger to qualify for U.S. federal income tax purposes as a "reorganization" within the meaning of Section 368(a) of the Code. It is not, however, a condition to Neurogene's obligation or Neoleukin's obligation to complete the transactions that the merger so qualify. None of the parties to the Merger Agreement have sought or intend to seek any ruling from the IRS regarding the qualification of the merger as a reorganization within the meaning of Section 368(a) of the Code. Accordingly, there can be no assurance that the IRS will not assert that the transaction fails to qualify as a reorganization or that a court would not sustain such a challenge. If the IRS were to challenge the "reorganization" status of the merger successfully, the tax considerations would differ from those set forth in this proxy statement/prospectus. If the merger fails to qualify as a "reorganization" within the meaning of Section 368(a) of the Code, then U.S. holders would be required to recognize gain or loss on their exchange of Neurogene common stock for Neoleukin common stock.

Provided the merger qualifies as a "reorganization" within the meaning of Section 368(a) of the Code, the material U.S. federal income tax considerations of the merger will generally be as follows.

Effects of the Merger to U.S. Holders of Neurogene Common Stock

U.S. holders of Neurogene common stock who exchange all of their shares of Neurogene common stock for Neoleukin common stock generally will not recognize any gain or loss for U.S. federal income tax purposes. Each U.S. holder's aggregate tax basis in the shares of Neoleukin common stock received in the merger will equal such U.S. holder's aggregate adjusted tax basis in the shares of Neurogene common stock surrendered in the merger (less any tax basis allocated to a fractional share of Neoleukin common stock that is deemed to be redeemed, as described below). The holding period of the shares of Neoleukin common stock received by a U.S. holder in the merger will include such U.S. holder's holding period for the shares of Neurogene common stock surrendered in the merger. If a U.S. holder holds different blocks of Neurogene common stock (generally, Neurogene common stock acquired on different dates or at different prices), such U.S. holder should consult its tax advisor with respect to the determination of the tax bases and/or holding periods of the shares of Neoleukin common stock received in the merger.

This discussion of U.S. federal income tax considerations of the merger is for general information purposes only and is not intended to be, and should not be construed as, tax advice. Determining the actual

tax considerations of the merger to you may be complex and will depend on your specific situation and on factors that are not within Neoleukin's knowledge or control. You should consult your tax advisors with respect to the application of U.S. federal income tax laws to your specific situation as well as any tax considerations arising under the U.S. federal estate or gift tax rules or under the laws of any state, local, non-U.S. or other taxing jurisdiction.

Nasdaq Stock Market Listing

Shares of Neoleukin common stock are currently listed on Nasdaq under the symbol "NLTX." Neoleukin has agreed to use commercially reasonable efforts to cause the shares of Neoleukin common stock being issued in the merger to be approved for listing on Nasdaq at or prior to the effective time.

In addition, under the Merger Agreement, each of Neoleukin's and Neurogene's obligation to complete the merger is subject to the satisfaction or waiver by each of the parties, at or prior to the merger, of various conditions, including that the shares of Neoleukin common stock to be issued in the merger have been approved for listing (subject to official notice of issuance) on Nasdaq as of the closing of the merger.

If the Nasdaq listing application is accepted, Neoleukin anticipates that the common stock of the combined company will be listed on Nasdaq following the closing of the merger under the trading symbol "NGNE." In order for the Nasdaq listing application to be accepted, among other requirements, the combined company must maintain a bid price of $4.00 or higher for a certain period of time following the proposed reverse stock split.

Anticipated Accounting Treatment

The merger is expected to be treated by Neoleukin as a reverse asset purchase in accordance with GAAP. For accounting purposes, Neurogene is considered to be acquiring the assets and liabilities of Neoleukin in this transaction based on the terms of the Merger Agreement and other factors, including: (i) Neurogene's equityholders will own a substantial majority of the voting rights in the combined company; (ii) Neurogene's largest stockholder will retain the largest interest in the combined company; (iii) Neurogene will designate a majority (five of seven) of the initial members of the board of directors of the combined company; and (iv) Neurogene's executive management team will become the management of the combined company. The combined company will be named Neurogene Inc. and be headquartered in New York, New York. Accordingly, the merger is expected to be treated as the equivalent of Neurogene issuing stock to acquire the net assets of Neoleukin. As a result of the merger, the net assets of Neoleukin will be stated at fair value, which approximates carrying value, with no goodwill or other intangible assets recorded, and the historical results of operations prior to the merger will be those of Neurogene. See the "*Unaudited Pro Forma Condensed Combined Financial Information*" elsewhere in this proxy statement/prospectus for additional information.

Appraisal Rights and Dissenters' Rights

Under the DGCL, Neoleukin stockholders are not entitled to appraisal rights in connection with the merger. Neurogene stockholders are entitled to appraisal rights in connection with the merger under Section 262 of the DGCL. The following discussion is not a complete statement of the law pertaining to appraisal rights under the DGCL and is qualified in its entirety by the full text of Section 262, which may be accessed without subscription or cost at the following publicly available website: https://delcode.delaware.gov/title8/c001/sc09/index.html#262. The following summary does not constitute any legal or other advice and does not constitute a recommendation that record holders or beneficial owners of Neurogene capital stock exercise their appraisal rights under Section 262.

Any person contemplating the exercise of such appraisal rights should carefully review the provisions of Section 262, which may be accessed without subscription or cost at the link in the preceding paragraph, particularly the procedural steps required to properly demand and perfect such rights. Failure to follow the steps required by Section 262 for demanding and perfecting appraisal rights may result in the loss of such rights. All

references in Section 262 and in this summary to a (i) "stockholder" are to the record holder of shares of Neurogene capital stock unless otherwise expressly noted herein, (ii) "beneficial owner" are to a person who is the beneficial owner of shares of Neurogene capital stock held either in voting trust or by a nominee on behalf of such person, and (iii) "person" are to an individual, corporation, partnership, unincorporated association or other entity.

Under Section 262, if the merger is completed, Neurogene stockholders and beneficial owners who: (i) properly submit a written demand for appraisal of their shares of capital stock; (ii) hold such shares on the date of the making of a demand under clause (i) and continue to hold their shares of capital stock through the effective time; (iv) do not thereafter withdraw their demand for appraisal of their shares of capital stock or otherwise lose their appraisal rights, each in accordance with the DGCL; and (v) otherwise comply with the statutory requirements set forth in Section 262, may be entitled to have their shares of capital stock appraised by the Delaware Court of Chancery and to receive payment in cash of the "fair value" of the shares of Neurogene capital stock, exclusive of any element of value arising from the accomplishment or expectation of the merger, together with interest to be paid on the amount determined to be "fair value," if any, as determined by the Delaware Court of Chancery. A beneficial owner may, in such person's name, demand in writing an appraisal of such beneficial owner's shares of capital stock in accordance with the procedures of subsection (d)(1) of Section 262 summarized above, provided that (i) such beneficial owner continuously owns such shares of capital stock through the effective time and otherwise satisfies the requirements applicable to a stockholder under the first sentence of subsection (a) of Section 262, and (ii) the demand made by such beneficial owner reasonably identifies the holder of record of the shares of capital stock for which that demand is made, is accompanied by documentary evidence of such beneficial owner's beneficial ownership of stock and a statement that such documentary evidence is a true and correct copy of what it purports to be, and provides an address at which such beneficial owner consents to receive notices given by the surviving corporation under Section 262 and to be set forth on the Verified List (defined below) required by Section 262(f).

Unless the Delaware Court of Chancery, in its discretion, determines otherwise for good cause shown, interest on an appraisal award from the effective date of the merger through the date of payment of the judgment will compound quarterly and accrue at 5% over the Federal Reserve System (the "Federal Reserve") discount rate (including any surcharge) as established from time to time during the period between the effective date of the merger and the date the judgment is paid. However, at any time before the Delaware Court of Chancery enters judgment in the appraisal proceedings, the surviving corporation may voluntarily pay to each person entitled to appraisal an amount in cash pursuant to subsection (h) of Section 262, in which case interest will accrue after the time of such payment as provided herein only on the sum of (i) the difference, if any, between the amount so paid and the "fair value" of the shares of capital stock as determined by the Delaware Court of Chancery, and (ii) any interest therefore accrued prior to the time of such payment. The surviving corporation is under no obligation to make such voluntary cash payment prior to such entry of judgment. Persons considering seeking appraisal should be aware that the "fair value" of their shares of capital stock as determined pursuant to Section 262 of the DGCL could be more than, the same as, or less than the value that they would receive pursuant to the Merger Agreement if they did not seek appraisal of their shares of capital stock.

Under Section 262, where a merger is approved pursuant to Section 251(h) of the DGCL, Neurogene, before the effective date of the merger, or the surviving corporation, within 10 days after the effective date of such merger, must notify each of its stockholders who is entitled to appraisal rights of the approval of the merger and that appraisal rights are available and include in the notice a copy of Section 262 or information directing the stockholders to a publicly available electronic resource at which Section 262 may be accessed without subscription or cost. This registration statement on Form S-4 constitutes Neurogene's notice to the Neurogene stockholders that appraisal rights are available in connection with the merger, and the full text of Section 262 may be accessed without subscription or cost at the following publicly available website: https://delcode.delaware.gov/title8/c001/sc09/index.html#262. In connection with the merger, any person who wishes to exercise appraisal rights, or who wishes to preserve his, her or its right to do so, should review Section 262 carefully. Failure to strictly comply with the requirements of Section 262 in a timely and proper

manner may result in the loss of appraisal rights under the DGCL. A person who loses his, her or its appraisal rights will be entitled to receive the value that they would receive pursuant to the Merger Agreement. Moreover, because of the complexity of the procedures for exercising the right to seek appraisal, Neurogene believes that if a person considers exercising such rights, that person should seek the advice of legal counsel.

Stockholders and beneficial owners wishing to exercise the right to seek an appraisal of their shares of Neurogene capital stock must satisfy ALL of the following conditions:

- Within 20 days after the date Neurogene mails a notice to its stockholders notifying them that the merger has been approved, the effective date of the merger and that appraisal rights are available to any stockholder who has not approved the merger, deliver to Neurogene a written demand for appraisal of shares of capital stock held, which demand must reasonably inform Neurogene of the identity of the stockholder or beneficial owner and that such stockholder or beneficial owner is demanding appraisal;
- continuously hold of record or beneficially own the shares of capital stock from the date on which the written demand for appraisal is made through the effective time; and
- comply with the procedures of Section 262 of the DGCL.

Any person who has complied with the applicable requirements of Section 262 and is otherwise entitled to appraisal rights or the surviving corporation may file a petition in the Delaware Court of Chancery demanding a determination of the value of the shares of capital held by all such persons within 120 days after the effective time. The surviving corporation is under no obligation to file any petition and has no intention of doing so.

Filing Written Demand

Any Neurogene stockholder or beneficial owner wishing to exercise appraisal rights must deliver to Neurogene, within 20 days after the date Neurogene mails a notice to its stockholders notifying them that the merger has been approved, the effective date of the merger and that appraisal rights are available to any stockholder who has not approved the merger, a written demand for the appraisal of such person's shares of capital stock. A person exercising appraisal rights must hold the shares of capital stock for which they will seek appraisal upon the making of the demand for appraisal and must continue to hold the shares of capital stock through the effective time. A stockholder's or beneficial owner's failure to make the written demand within the requisite time period described above will constitute a waiver of appraisal rights.

Record Holders

A holder of record of shares of Neurogene capital stock is entitled to demand appraisal rights for the shares of capital stock registered in that holder's name. A demand for appraisal in respect of shares of Neurogene capital stock by a holder of record must reasonably inform Neurogene of the identity of the holder and state that the stockholder intends thereby to demand appraisal of the holder's shares of capital stock in connection with the merger.

Beneficial Owners

A beneficial owner may, in such person's name, demand in writing an appraisal of such beneficial owner's shares of capital stock in accordance with the procedures of subsection (d)(1) of Section 262 summarized above, provided that (i) such beneficial owner continuously owns such shares of capital stock through the effective time and otherwise satisfies the requirements applicable to a stockholder under the first sentence of subsection (a) of Section 262, and (ii) the demand made by such beneficial owner reasonably identifies the holder of record of the shares of capital stock for which the demand is made, is accompanied by documentary evidence of such beneficial owner's beneficial ownership of stock and a statement that such documentary evidence is a true and correct copy of what it purports to be, and provides an address at which such beneficial owner consents to receive notices given by the surviving corporation under Section 262 and to be set forth on the Verified List (defined below).

All written demands for appraisal pursuant to Section 262 should be mailed or delivered to:

Neurogene Inc.
535 W 24th Street, 5th Floor
New York, NY 10011
Attn: Chief Financial Officer

Any person entitled to appraisal rights who has delivered a written demand to Neurogene and who has not commenced an appraisal proceeding or joined that proceeding as a named party may withdraw his, her or its demand for appraisal by delivering to Neurogene a written withdrawal of the demand for appraisal at any time within 60 days after the effective time. No appraisal proceeding in the Delaware Court of Chancery will be dismissed as to any person without the approval of the Delaware Court of Chancery, and such approval may be conditioned upon such terms as the Delaware Court of Chancery deems just; provided, however, that this shall not affect the right of any person who has not commenced an appraisal proceeding or joined that proceeding as a named party to withdraw such person's demand for appraisal within 60 days after the effective time. If an appraisal proceeding is commenced, except with respect to any person who withdraws such person's demand in accordance with the proviso in the immediately preceding sentence, if the Delaware Court of Chancery does not approve the dismissal of an appraisal proceeding with respect to a Neurogene stockholder or beneficial owner, such stockholder or beneficial owner will be entitled to receive only the appraised value determined in any such appraisal proceeding, which value could be less than, equal to or more than the value received under the terms of the Merger Agreement.

Notice by the Surviving Corporation

If the merger is completed, within ten days after the effective rime, the surviving corporation will notify each Neurogene stockholder who has properly made a written demand for appraisal pursuant to Section 262 and any beneficial owner who has demanded appraisal in accordance with Section 262, that the merger has become effective and the effective date of the merger.

Filing a Petition for Appraisal

Within 120 days after the effective time, but not thereafter, the surviving corporation or any person who has complied with Section 262 and who is otherwise entitled to seek appraisal under Section 262 (including for this purpose any beneficial owner of the relevant shares of capital stock) may commence an appraisal proceeding by filing a petition in the Delaware Court of Chancery, with a copy served on the surviving corporation in the case of a petition filed by a Neurogene stockholder or beneficial owner, demanding a determination of the value of the shares of capital stock held by all such persons entitled to appraisal. The surviving corporation is under no obligation, and has no present intention, to file a petition, and no person should assume that the surviving corporation will file a petition or initiate any negotiations with respect to the "fair value" of the shares of Neurogene capital stock. Accordingly, any Neurogene stockholders or beneficial owners who desire to have their shares of capital stock appraised should initiate all necessary action to perfect their appraisal rights in respect of their shares of Neurogene capital stock within the time and in the manner prescribed in Section 262. The failure of a record holder or beneficial owner of Neurogene capital stock to file such a petition within the period specified in Section 262 could nullify such person's previous written demand for appraisal.

Within 120 days after the effective time, any person who has complied with the requirements of Section 262 and who is entitled to appraisal rights thereunder will be entitled, upon written request, to receive from the surviving corporation a statement setting forth the aggregate number of shares of capital stock beneficially owned and with respect to which Neurogene has received demands for appraisal, and the aggregate number of stockholders or beneficial owners holding or owning such shares of capital stock (provided that, where a beneficial owner makes a demand on his, her or its own behalf, the record holder of such shares of capital stock

shall not be considered a separate stockholder holding such shares of capital stock for purposes of such aggregate number). The surviving corporation must send this statement to the requesting Neurogene stockholder within ten days after receipt by the surviving corporation of the written request for such a statement or within ten days after the expiration of the period for delivery of demands for appraisal, whichever is later. A beneficial owner of shares of Neurogene capital stock held either in a voting trust or by a nominee on behalf of such person may, in such person's own name, file a petition seeking appraisal or request from the surviving corporation the foregoing statements.

If a petition for an appraisal is duly filed by any person other than the surviving corporation and a copy thereof is served upon the surviving corporation, the surviving corporation will then be obligated within 20 days after such service to file with the Delaware Register in Chancery in which the petition was filed a duly verified list (the "Verified List") containing the names and addresses of all persons who have demanded appraisal for their shares of capital stock and with whom agreements as to the value of their shares of capital stock have not been reached. Upon the filing of any such petition, the Delaware Court of Chancery may order that notice of the time and place fixed for the hearing on the petition be mailed to the surviving corporation and all of the persons shown on the Verified List at the addresses stated therein. The form of the notice by mail and by publication shall be approved by the Delaware Court of Chancery, and the costs thereof shall be borne by the surviving corporation.

After notice to the persons shown on the Verified List as required by the court, the Delaware Court of Chancery is empowered to conduct a hearing on the petition to determine those persons who have complied with Section 262 and who have become entitled to appraisal rights thereunder. The Delaware Court of Chancery may require persons who have demanded an appraisal for their shares of capital stock and who hold stock represented by certificates (if any) to submit their stock certificates to the Delaware Register in Chancery for notation thereon of the pendency of the appraisal proceedings and, if any person fails to comply with the direction, the Delaware Court of Chancery may dismiss the proceedings as to such person.

Determination of "Fair Value"

After determining persons entitled to appraisal, the appraisal proceeding will be conducted in accordance with the rules of the Delaware Court of Chancery, including any rules specifically governing appraisal proceedings. Through such proceeding, the Delaware Court of Chancery will determine the "fair value" of the shares of Neurogene common stock, exclusive of any element of value arising from the accomplishment or expectation of the merger, together with interest, if any, to be paid upon the amount determined to be the "fair value." In determining "fair value," the Delaware Court of Chancery will take into account all relevant factors. Unless the Delaware Court of Chancery in its discretion determines otherwise for good cause shown, interest from the effective time through the date of payment of the judgment will compound quarterly and accrue at 5% over the Federal Reserve discount rate (including any surcharge) as established from time to time during the period between the effective time and the date the judgment is paid. However, at any time before the Delaware Court of Chancery enters judgment in the appraisal proceedings, the surviving corporation may pay to each person entitled to appraisal an amount in cash, in which case such interest will accrue after the time of such payment only on the sum of (i) the difference, if any, between the amount so paid by the surviving corporation and the "fair value" of the shares of capital stock as determined by the Delaware Court of Chancery, and (ii) interest accrued prior to the time of such voluntary payment, unless paid at that time.

In Weinberger v. UOP, Inc., the Delaware Supreme Court discussed the factors that could be considered in determining "fair value" in an appraisal proceeding, stating that "proof of value by any techniques or methods which are generally considered acceptable in the financial community and otherwise admissible in court" should be considered, and that "[f]air price obviously requires consideration of all relevant factors involving the value of a company." The Delaware Supreme Court stated that, in making this determination of "fair value," the court must consider market value, asset value, dividends, earnings prospects, the nature of the enterprise and any other facts that could be ascertained as of the date of the merger that throw any light on future prospects of the merged

corporation. Section 262 provides that "fair value" is to be "exclusive of any element of value arising from the accomplishment or expectation of the merger." In Cede & Co. v. Technicolor, Inc., the Delaware Supreme Court stated that such exclusion is a "narrow exclusion [that] does not encompass known elements of value," but which rather applies only to the speculative elements of value arising from such accomplishment or expectation. In Weinberger, the Delaware Supreme Court also stated that "elements of future value, including the nature of the enterprise, which are known or susceptible of proof as of the date of the merger and not the product of speculation, may be considered."

Persons considering seeking appraisal should be aware that the "fair value" of their shares of capital stock as so determined by the Delaware Court of Chancery could be more than, the same as or less than the value of the shares of capital stock they would receive pursuant to the merger if they did not seek appraisal of their shares of capital stock and that an opinion of an investment banking firm as to the fairness from a financial point of view of the exchange ratio is not an opinion as to, and may not in any manner address, "fair value" under Section 262. Although Neurogene believes that the exchange ratio is fair, no representation is made as to the outcome of the appraisal of "fair value" as determined by the Delaware Court of Chancery, and persons seeking appraisal should recognize that such an appraisal could result in a determination of a value higher or lower than, or the same as, the exchange ratio. Neither Neurogene nor Neoleukin anticipates offering more than the exchange ratio to any person exercising appraisal rights, and each of Neurogene and Neoleukin reserves the rights to make a voluntary cash payment pursuant to subsection (h) of Section 262 and to assert, in any appraisal proceeding, that for purposes of Section 262, the "fair value" of a share of Neurogene common stock is less than the exchange ratio. If a demand for appraisal is duly withdrawn, if a petition for appraisal is not timely filed, or other requirements imposed by Section 262 to perfect and seek appraisal are not satisfied, then the right to an appraisal will cease.

Upon application by the surviving corporation or by any person entitled to participate in the appraisal proceeding, the Delaware Court of Chancery may, in its discretion, proceed to trial upon the appraisal prior to the final determination of the persons entitled to an appraisal. Any person whose name appears on the Verified List may participate fully in all proceedings until it is finally determined that such person is not entitled to appraisal rights under Section 262.

The Delaware Court of Chancery will direct the payment of the fair value of the shares of capital stock, together with interest, if any, by the surviving corporation to the persons entitled thereto. Payment will be made to each such person upon such terms and conditions as the Delaware Court of Chancery may order. The Delaware Court of Chancery's decree may be enforced as other decrees in the Delaware Court of Chancery may be enforced.

The costs of the appraisal proceedings (which do not include attorneys' fees or the fees and expenses of experts) may be determined by the Delaware Court of Chancery and charged upon the parties as the Delaware Court of Chancery deems equitable under the circumstances. Upon application of a person whose name appears on the Verified List who participated in the proceeding and incurred expenses in connection therewith, the Delaware Court of Chancery may also order that all or a portion of such expenses, including, without limitation, reasonable attorneys' fees and the fees and expenses of experts, be charged pro rata against the value of all the shares of capital stock entitled to appraisal not dismissed pursuant to subsection (k) of Section 262 or subject to such an award pursuant to a reservation of jurisdiction under subsection (k) of Section 262. In the absence of such determination or assessment, each party bears its own expenses.

If any person who demands appraisal of his, her or its shares of Neurogene capital stock under Section 262 fails to perfect, or effectively loses or withdraws, such person's right to appraisal, the person's shares of Neurogene common stock will be deemed to have been converted at the effective time pursuant to the exchange ratio, without interest. A person will fail to perfect, or effectively lose, such person's right to appraisal if no petition for appraisal is filed within 120 days after the effective time, or if the person delivers to the surviving corporation a written withdrawal of the person's demand for appraisal in accordance with Section 262.

From and after the effective time, no person who has demanded appraisal rights with respect to some or all of such person's shares of capital stock in compliance with Section 262 will be entitled to tender such shares of capital stock of Neurogene common stock or to receive payment of dividends or other distributions on such shares of capital stock, except dividends or other distributions payable to stockholders of record at a date which is prior to the effective time. If no petition for an appraisal is filed within the time period provided in Section 262, or if the person delivers to the surviving corporation a written withdrawal of the demand for an appraisal in respect of some or all of such person's shares of capital stock within 60 days after the effective time, then the right of such person to an appraisal of the shares of capital stock subject to the withdrawal will cease. Once a petition for appraisal is filed with the Delaware Court of Chancery, however, the appraisal proceeding may not be dismissed as to any person without the approval of the Delaware Court of Chancery, and such approval may be conditioned upon such terms as the court deems just, including without limitation a reservation of jurisdiction for any application to the Delaware Court of Chancery made under subsection (j) of Section 262; provided, however, that the foregoing shall not affect the right of any person who has not commenced an appraisal proceeding or joined that proceeding as a named party to withdraw such person's demand for appraisal and to accept the terms offered upon the merger within 60 days after the effective time.

Failure to comply strictly with all of the procedures set forth in Section 262 may result in the loss of a record holder's or beneficial owner's statutory appraisal rights. In that event, you will be entitled to receive the number of shares of Neoleukin common stock for your dissenting shares of capital stock in accordance with the Merger Agreement, without interest, less any applicable withholding taxes. Consequently, any stockholder or beneficial owner wishing to exercise appraisal rights is encouraged to consult legal counsel before attempting to exercise those rights.

THE MERGER AGREEMENT

The following is a summary of the material terms of the Merger Agreement. A copy of the Merger Agreement is attached to this proxy statement/prospectus as Annex A and is incorporated by reference into this proxy statement/prospectus. The Merger Agreement has been attached to this proxy statement/prospectus to provide you with information regarding its terms. It is not intended to provide any other factual information about Neoleukin, Neurogene or Merger Sub. The following description does not purport to be complete and is qualified in its entirety by reference to the Merger Agreement. You should refer to the full text of the Merger Agreement for details of the merger and the terms and conditions of the Merger Agreement.

The Merger Agreement contains representations and warranties that Neoleukin and Merger Sub, on the one hand, and Neurogene, on the other hand, have made to one another as of specific dates. These representations and warranties have been made for the benefit of the other parties to the Merger Agreement and may be intended not as statements of fact but rather as a way of allocating the risk to one of the parties if those statements prove to be incorrect. In addition, the assertions embodied in the representations and warranties are qualified by information in confidential disclosure schedules exchanged by the parties in connection with signing the Merger Agreement. While Neoleukin and Neurogene do not believe that these disclosure schedules contain information required to be publicly disclosed under the applicable securities laws, other than information that has already been so disclosed, the disclosure schedules do contain information that modifies, qualifies and creates exceptions to the representations and warranties set forth in the attached Merger Agreement. Accordingly, you should not rely on the representations and warranties as current characterizations of factual information about Neoleukin or Neurogene, because they were made as of specific dates, may be intended merely as a risk allocation mechanism between Neoleukin, Merger Sub and Neurogene and are modified by the disclosure schedules.

Structure

Subject to the terms and conditions of the Merger Agreement, and in accordance with Delaware law, at the completion of the merger, Merger Sub, a wholly owned subsidiary of Neoleukin formed by Neoleukin in connection with the merger, will merge with and into Neurogene, with Neurogene surviving as a wholly owned subsidiary of Neoleukin.

Completion and Effectiveness of the Merger

The Merger Agreement requires the parties to consummate the merger as promptly as practicable (and in any event within two business days) after all of the conditions to the consummation of the merger contained in the Merger Agreement are satisfied or waived, including the adoption of the Merger Agreement by the Neurogene stockholders and the approval by the Neoleukin stockholders of the issuance of Neoleukin common stock and the other transactions proposed under the Merger Agreement, other than those conditions that by their nature are to be satisfied at the closing of the merger. The merger will become effective upon the filing of a certificate of merger with the Secretary of State of the State of Delaware or at such later time as is agreed by Neoleukin and Neurogene and specified in the certificate of merger. Neither Neoleukin nor Neurogene can predict the exact timing of the consummation of the merger.

Merger Consideration

At the effective time, upon the terms and subject to the conditions set forth in the Merger Agreement, each outstanding share of Neurogene capital stock (including shares of Neurogene common stock, shares of Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing financing) (excluding shares of Neurogene common stock to be canceled pursuant to the Merger Agreement and excluding dissenting shares) will be automatically converted solely into the right to receive a number of shares of Neoleukin common stock or pre-funded warrants entitling the holder thereof to purchase shares of Neoleukin common stock, as elected by the Neurogene stockholder, equal to the exchange ratio described in more detail

below. Any holder of Neurogene capital stock will be automatically considered to have elected to receive Neoleukin pre-funded warrants to the extent necessary to prevent such holder from beneficially owning more than 9.99% of the outstanding shares of Neoleukin common stock following the consummation of the merger. Other than as provided in the preceding sentence, if any holder of Neurogene capital stock fails to make any such election, such holder will be deemed to have elected to receive shares of Neoleukin common stock.

No fractional shares of Neoleukin common stock will be issued in connection with the merger, and no certificates or scrip for any such fractional shares will be issued. Any fractional shares of Neoleukin common stock resulting from the conversion of shares of Neurogene capital stock (including shares of Neurogene common stock, shares of Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing financing) shall be issued as follows: (i) one share of Neoleukin common stock if the aggregate amount of fractional shares of Neoleukin capital stock of any individual holder of Neurogene capital stock to be issued upon conversion is equal to or exceeds 0.50 or (ii) no shares of Neoleukin common stock if the aggregate amount of fractional shares of Neoleukin common stock of any individual holder of Neurogene capital stock to be issued upon conversion is equal to or is less than 0.50, with no cash being paid for any fractional share eliminated by such rounding.

Exchange Ratio

The exchange ratio is calculated using a formula intended to allocate existing Neoleukin and Neurogene securityholders a percentage of the combined company. Based on Neoleukin's and Neurogene's capitalization as of July 17, 2023, the date the Merger Agreement was executed, the exchange ratio is estimated to be equal to approximately 1.7378x shares of Neoleukin common stock assuming Neoleukin's net cash as of closing being not less than the Target Parent Net Cash and receipt of $95.0 million in proceeds to Neurogene from the pre-closing financing. This estimate is subject to adjustment prior to closing of the merger for net cash at the cash determination time and the aggregate proceeds received by Neurogene in the Neurogene pre-closing financing (and as a result, Neoleukin securityholders could own more, and Neurogene securityholders (including, for this purpose, investors in the Neurogene pre-closing financing) could own less, or vice versa, of the combined company).

Based on the foregoing assumptions, immediately following the completion of the merger, Neoleukin securityholders, including shares subject to issuance on the exercise of Neoleukin existing pre-funded warrants and certain options outstanding immediately before the effective time, would own approximately 16% of the capital stock of the combined company post-merger, and Neurogene securityholders, including shares of Neurogene common stock and Neurogene pre-funded warrants purchased in the Neurogene pre-closing financing, would own approximately 84% of the capital stock of the combined company post-merger. The foregoing percentages were calculated using the TSM. For more information on the Neurogene pre-closing financing, please see the section entitled "*Agreements Related to the Merger—Subscription Agreement*" beginning on page 176 in this proxy statement/prospectus.

The exchange ratio formula is the quotient obtained (rounded to four decimal places) by dividing the number of Neurogene merger shares (defined below) by the Neurogene outstanding shares (defined below), in which:

- "Aggregate valuation" means the sum of (i) the Neurogene valuation plus (ii) the Neoleukin valuation.
- "Neoleukin allocation percentage" means the quotient (expressed as a percentage and rounded to four decimal places) determined by dividing (i) the Neoleukin valuation by (ii) the aggregate valuation.
- "Neoleukin equity value" means (i) $76.0 million minus (ii) Neoleukin lease obligation.
- "Neoleukin net cash adjustment amount" means a number (which may be positive or negative) equal to (i) Neoleukin net cash minus (ii) the Target Parent Net Cash amount.
- "Neoleukin outstanding shares" means, subject to certain adjustments pursuant to the terms of the Merger Agreement (including, without limitation, the effects of the reverse stock split), the total

number of shares of Neoleukin common stock outstanding immediately prior to the effective time expressed on a fully-diluted basis and using the treasury stock method, but assuming, without limitation or duplication, (i) the exercise in full of all Neoleukin options, Neoleukin existing pre-funded warrants, restricted stock units, and any other outstanding options, warrants or rights to receive shares of Neoleukin common stock, in each case, outstanding as of immediately prior to the effective time (assuming cashless exercise and using the Neoleukin Valuation), whether conditional or unconditional and, (ii) that the value of a share of Neoleukin common stock equals the five-day VWAP as of five business days before the closing; provided that out of the money Neoleukin options or Neoleukin existing pre-funded warrants shall be excluded from such total.

- "Neoleukin valuation" means (i) Neoleukin equity value plus (ii) Neoleukin net cash adjustment amount.
- "Neurogene allocation percentage" means the percentage (rounded to four decimal places) determined by subtracting the Neoleukin allocation percentage from 100%.
- "Neurogene merger shares" means the product determined by multiplying (i) the post-closing Neoleukin shares by (ii) the Neurogene allocation percentage.
- "Neurogene outstanding shares" means, subject to the terms of the Merger Agreement, the total number of shares of Neurogene capital stock outstanding immediately prior to the effective time, including all shares of Neurogene common stock and shares of Neurogene common stock underlying any Neurogene pre-funded warrant, in each case, issued in connection with the Neurogene pre-closing financing, expressed on a fully-diluted and as-converted to Neurogene common stock basis and using the treasury stock method and assuming, without limitation or duplication, (i) the exercise in full of all Neurogene options outstanding as of immediately prior to the effective time that are not cancelled at the effective time (and excluding any unvested Neurogene options that are forfeited at the effective time), (ii) the exercise in full of all Neurogene restricted stock units outstanding as of immediately prior to the effective time, (iii) the issuance of shares of Neurogene common stock in respect of all other derivative securities of Neurogene outstanding as of immediately prior to the effective time and (iv) that the valuation of Neurogene is the Neurogene Valuation; provided that out of the money Neurogene options shall be excluded from such total.
- "Neurogene valuation" means (i) $200.0 million plus (ii) the amount of gross cash proceeds received by Neurogene in connection with the Neurogene pre-closing financing prior to the effective time.
- "Post-closing Neoleukin shares" mean the quotient determined by dividing (i) the Neoleukin outstanding shares by (ii) the Neoleukin allocation percentage.

The estimated exchange ratio for purposes of the unaudited pro forma condensed combined financial information was derived on a fully diluted basis as of July 17, 2023 using a stipulated value of Neurogene of approximately $295.0 million (including the Neurogene pre-closing financing) and of Neoleukin of approximately $55.6 million. For more information, see "*Unaudited Pro Forma Condensed Combined Financial Information.*"

Calculation of Neoleukin's Net Cash

Pursuant to the terms of the Merger Agreement, Neoleukin's "net cash" means, as of the cash determination time (which is as of 11:59 p.m. Eastern Time on the last business day prior to the anticipated closing date) the sum (without duplication) of the following:

- Neoleukin's unrestricted cash and cash equivalents and marketable securities determined, to the extent in accordance with GAAP, in a manner consistent with the manner in which such items were historically determined and in accordance with the financial statements (including any related notes) contained or incorporated by reference in Neoleukin's SEC filings or Neoleukin's balance sheet;

- all Neoleukin's prepaid expenses, receivables, deposits and restricted cash;
- net proceeds due to Neoleukin or it subsidiary at closing, or as mutually agreed in good faith, otherwise in connection with any Neoleukin legacy transaction (in each case, net of any indemnification obligations, expenses, fees, taxes, accrued or payable to Neoleukin or its subsidiary that are attribute to such Neoleukin legacy transaction); and
- *minus* the sum (without duplication) of the following:
- Neoleukin's consolidated short-term and long-term contractual obligations and accrued liabilities (other than any liability accrued with respect to obligations pursuant to the Neoleukin lease agreements), in each case determined in accordance with GAAP and, to the extent in accordance with GAAP, in a manner consistent with the manner in which such items were historically determined and in accordance with the financial statements (including any related notes) contained or incorporated by reference in Neoleukin's SEC filings or Neoleukin's balance sheet (which, for the avoidance of doubt, shall include anticipated costs with respect to the winding down of the NL-201 clinical trial, without duplication, net of any deposits made in connection with such activities);
- fees and expenses incurred with respect to the transaction payable by Neoleukin or its subsidiary, including for the avoidance of doubt, the transaction expenses of Neoleukin to the extent unpaid as of closing and the fees and expenses underlying any engagement set forth on the Neoleukin disclosure schedule;
- the aggregate costs associated with obtaining the D&O tail policy contemplated by the Merger Agreement;
- lease negotiation holdback; and
- CVR holdback for the disposition of Neoleukin's legacy business.

No later than five business days prior to the anticipated closing date, Neoleukin will deliver to Neurogene a net cash schedule setting forth, in reasonable detail, Neoleukin's good faith estimated calculation of its net cash at the cash determination time, prepared and certified by Neoleukin's chief financial officer (or if there is no chief financial officer, the principal financial and accounting officer), and, if requested, the relevant work papers and back-up materials used or useful in preparing the net cash schedule. No later than three business days after delivery of such net cash schedule (the last day of such period referred to as the response date), Neurogene will have the right to dispute any part of the net cash schedule by delivering a written notice to that effect to Neoleukin (referred to herein as a dispute notice). Any dispute notice will identify, in reasonable detail and, to the extent known, the nature and amounts of any proposed revisions to Neoleukin's net cash calculation.

If Neurogene disputes the net cash schedule, the parties shall attempt in good faith to resolve the disputed items and negotiate an agreed-upon determination of net cash. If the parties are unable to negotiate an agreed-upon determination of net cash or any component thereof within three days after the delivery of Neurogene's dispute notice, any remaining disagreements will be referred to an independent auditor of recognized national standing mutually agreed upon by Neoleukin and Neurogene. The determination of the amount of net cash made by such auditor shall be final and binding on Neoleukin and Neurogene.

Neoleukin's net cash balance is subject to numerous factors, some of which are outside of Neoleukin's control. The actual amount of net cash will depend significantly on the timing of the closing of the merger. In addition, the closing of the merger could be delayed if Neoleukin and Neurogene are not able to agree upon the amount of Neoleukin's net cash as of the cash determination time.

Treatment of Neurogene Options

Under the terms of the Merger Agreement, each option to purchase shares of Neurogene common stock that is outstanding and unexercised immediately prior to the effective time and that, following assumption by

Neoleukin at the effective time, will be eligible to be registered on Form S-8, whether or not vested, will be assumed and converted into an option to purchase shares of Neoleukin common stock. Neoleukin will assume Neurogene's 2018 Plan.

Accordingly, from and after the effective time: (i) each outstanding Neurogene option assumed by Neoleukin may be exercised solely for shares of Neoleukin common stock; (ii) the number of shares of Neoleukin common stock subject to each outstanding Neurogene option assumed by Neoleukin will be determined by multiplying (A) the number of shares of Neurogene common stock that were subject to such Neurogene option assumed by Neoleukin, as in effect immediately prior to the effective time, by (B) the exchange ratio, and rounding the resulting number down to the nearest whole number of shares of Neoleukin common stock; and (iii) the per share exercise price of each Neurogene option assumed by Neoleukin will be determined by dividing (A) the per share exercise price of such Neurogene option, as in effect immediately prior to the effective time, by (B) the exchange ratio and rounding the resulting exercise price up to the nearest whole cent. Each Neurogene option assumed by Neoleukin will otherwise continue in full force and effect under the Neurogene 2018 Plan and the term, exercisability, vesting schedule, acceleration rights and other terms and conditions of such Neurogene option will otherwise remain unchanged.

However, to the extent provided under the terms of a Neurogene option assumed by Neoleukin in accordance with the terms of the Merger Agreement, such Neurogene option shall, in accordance with its terms, be subject to further adjustment as appropriate to reflect any stock split, division or subdivision of shares, stock dividend, reverse stock split, consolidation of shares, reclassification, recapitalization or other similar transaction with respect to shares of Neoleukin common stock subsequent to the effective time. In addition, the Neoleukin board of directors or a committee thereof will succeed to the authority and responsibility of the Neurogene board of directors or any committee thereof with respect to each Neurogene option assumed by Neoleukin in accordance with the terms of the Merger Agreement.

Treatment of Neurogene Pre-Funded Warrants

Under the terms of the Merger Agreement, each Neurogene pre-funded warrant to purchase shares of Neurogene common stock issued pursuant to the Neurogene pre-closing financing will be converted into a Neoleukin pre-funded warrant.

Accordingly, from and after the effective time: (i) each outstanding Neurogene pre-funded warrant assumed by Neoleukin may be exercised solely for shares of Neoleukin common stock; (ii) the number of shares of Neoleukin common stock subject to each outstanding Neurogene pre-funded warrant assumed by Neoleukin will be determined by multiplying (A) the number of shares of Neurogene common stock that were subject to such Neurogene pre-funded warrant, as in effect immediately prior to the effective time, by (B) the exchange ratio, and rounding the resulting number down to the nearest whole number of shares of Neoleukin common stock; and (iii) the per share exercise price for the Neoleukin common stock issuable upon exercise of each Neurogene pre-funded warrant assumed by Neoleukin will be determined by dividing (A) the per share exercise price of Neoleukin common stock subject to such Neurogene pre-funded warrant as in effect immediately prior to the effective time, by (B) the exchange ratio and rounding the resulting exercise price up to the nearest whole cent. Each Neurogene pre-funded warrant assumed by Neoleukin will otherwise continue in full force and effect and the term, any restriction on the exercise and other provisions of such Neurogene pre-funded warrant will otherwise remain unchanged.

However, to the extent provided under the terms of a Neurogene pre-funded warrant assumed by Neoleukin in accordance with the terms of the Merger Agreement, such Neurogene pre-funded warrant shall, in accordance with its terms, be subject to further adjustment as appropriate to reflect any stock split, division or subdivision of shares, stock dividend, reverse stock split, consolidation of shares, reclassification, recapitalization or other similar transaction with respect to shares of Neoleukin common stock subsequent to the effective time. In

addition, the Neoleukin board of directors or a committee thereof will succeed to the authority and responsibility of the Neurogene board of directors or any committee thereof with respect to each Neurogene pre-funded warrant assumed by Neoleukin in accordance with the terms of the Merger Agreement.

Treatment of Neoleukin Common Stock, Neoleukin Options, Neoleukin Existing Pre-Funded Warrants and Neoleukin RSUs

Each share of Neoleukin common stock issued and outstanding at the time of the merger will remain issued and outstanding. In addition, each unexpired, unexercised and unvested Neoleukin option that has an exercise price per share less than $3.78 that is held by a current employee, director or consultant of Neoleukin as of immediately prior to the effective time, or who ceases to be a current employee, director or consultant of Neoleukin as of immediately prior to the effective time, will be accelerated in full as of immediately prior to the effective time contingent upon the occurrence of the closing, and the vesting of all options held by the Neoleukin executive officers that are unexercised and unvested as of the effective time will be automatically accelerated as of the effective time pursuant to their respective employment agreements, regardless of the exercise price. All outstanding Neoleukin RSUs that vest solely on the basis of time that are outstanding immediately prior to the effective time will be accelerated in full and will be settled in shares of Neoleukin common stock immediately prior to the effective time contingent upon the occurrence of the closing. Each existing Neoleukin warrant that is outstanding immediately prior to the effective time, whether vested or unvested, will survive the closing and remain outstanding in accordance with its terms. If a reverse stock split is approved by the Neoleukin stockholders and implemented by the Neoleukin board, in consultation with Neurogene' s board, the number of shares of Neoleukin common stock underlying such Neoleukin options, Neoleukin warrant and Neoleukin RSUs and the exercise prices for such stock options will be appropriately adjusted to reflect the proposed reverse stock split.

Immediately after the merger, Neoleukin securityholders as of immediately prior to the merger are expected to own approximately 16% of the outstanding shares of Neoleukin common stock calculated using the TSM and, subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being not less than the Target Parent Net Cash amount and the receipt by Neurogene of $95.0 million in aggregate proceeds from the Neurogene pre-closing financing. For more information on the impact of the Neurogene pre-closing financing, please see the section entitled "*Agreements Related to the Merger—Subscription Agreement*" beginning on page 176 of this proxy statement/prospectus.

Treatment of Neoleukin ESPP

Under the Merger Agreement, no Neoleukin employee who is not already a participant in the Current ESPP Offering Period may become a participant in the Neoleukin ESPP and no participant may increase the amount of his or her payroll deduction election from that amount in effect on the date of the Merger Agreement for such Current ESPP Offering Period. The Neoleukin ESPP will be suspended and no new offering period will commence under the Neoleukin ESPP prior to the termination of the Merger Agreement. If any Current ESPP Offering Period is still in effect at the effective time, then the last day of such Current ESPP Offering Period will be accelerated to a date before Closing as determined by the Neoleukin board of directors (or relevant committee thereof) in its discretion.

Procedures for Exchanging Neurogene Stock Certificates

Prior to the closing date, Neoleukin will select an exchange agent and, at the effective time, Neoleukin will deposit with the exchange agent evidence of book-entry shares representing the shares of Neoleukin common stock issuable pursuant to the terms of the Merger Agreement or Neoleukin pre-funded warrants in lieu thereof in exchange for shares of Neurogene capital stock or Neurogene pre-funded warrants, as applicable.

Promptly after the effective time, the exchange agent will mail to each record holder of Neurogene capital stock or Neurogene pre-funded warrants (i) a letter of transmittal and (ii) instructions for surrendering the record

holder's stock certificates in exchange for the merger consideration (including in the case of holders of Neurogene capital stock, the choice of Neoleukin common stock or Neoleukin pre-funded warrants in lieu of such capital stock). Upon delivery to the exchange agent of a duly executed letter of transmittal in accordance with the exchange agent's instructions and the declaration for tax withholding purposes, the surrender of the record holder's stock certificates, if applicable, and delivery to the exchange agent of such other documents as may be reasonably required by the exchange agent or Neoleukin, the record holder of such stock certificates or book-entry shares, as applicable, will be entitled to receive in exchange therefor book-entry shares representing the number of whole shares of Neoleukin common stock issuable to such holder pursuant to the Merger Agreement or Neoleukin pre-funded warrants in lieu thereof, as instructed by such holder in its applicable letter of transmittal. The surrendered certificates representing shares of Neurogene capital stock will be canceled.

After the effective time, each certificate representing Neurogene capital stock that has not been surrendered will represent only the right to receive shares of Neoleukin common stock issuable pursuant to the Merger Agreement or Neoleukin pre-funded warrants in lieu thereof to which the holder of any such certificate is entitled. Any pre-funded warrant to purchase shares of Neurogene common stock that has not been surrendered will represent only the right to exercise such warrant for shares of Neoleukin common stock pursuant to the Merger Agreement to which the holder of any such warrant is entitled.

HOLDERS OF NEUROGENE CAPITAL STOCK SHOULD NOT SEND IN THEIR NEUROGENE STOCK CERTIFICATES UNTIL THEY RECEIVE A LETTER OF TRANSMITTAL FROM THE EXCHANGE AGENT WITH INSTRUCTIONS FOR THE SURRENDER OF NEUROGENE STOCK CERTIFICATES.

Directors and Officers of Neoleukin Following the Merger

Pursuant to the Merger Agreement, each of the directors and officers of Neoleukin who will not continue as directors or officers of Neoleukin following the consummation of the merger will resign effective as of the closing of the merger. Effective as of the effective time, the Neoleukin board of directors will consist of a total of seven directors, two of whom will be designated by Neoleukin and five of whom will be designated by Neurogene. Neoleukin has designated Sarah Noonberg and Rohan Palekar to serve as members of the Neoleukin board of directors and Neurogene has designated Rachel McMinn, Robert Baffi, Cory Freedland, Srdjan Stankovic, and will designate one additional director, to serve as members of the Neoleukin board of directors.

In addition, upon the closing of the merger, Rachel McMinn will serve as Chief Executive Officer, Christine Mikail will serve as President and Chief Financial Officer and Stuart Cobb will serve as Chief Scientific Officer.

Amendment of the Amended and Restated Certificate of Incorporation of Neoleukin

Neoleukin agreed to amend its Amended and Restated Certificate of Incorporation to (i) effect the proposed reverse stock split and (ii) change Neoleukin's name to "Neurogene Inc."

Representations and Warranties

The Merger Agreement contains customary representations and warranties of Neoleukin and Neurogene for a transaction of this type relating to, among other things:

- corporate organization and power, and similar corporate matters;
- due organization;
- subsidiaries;
- organizational documents;
- authority to enter into the Merger Agreement and the related agreements;

- votes required for completion of the merger and approval of the proposals that will come before the Neoleukin special meeting of stockholders and that will be the subject of the Neurogene stockholder approval;
- except as otherwise specifically disclosed in the Merger Agreement, the fact that the consummation of the merger would not contravene the organizational documents, certain laws, governmental authorizations or certain contracts of the parties; result in any encumbrances on the parties' assets or require the consent of any third party;
- the parties' efforts with respect to ensuring the inapplicability of Section 203 of the DGCL;
- capitalization;
- financial statements and, with respect to Neoleukin, documents filed with the SEC and the accuracy of information contained in those documents;
- material changes or events;
- liabilities;
- title to assets;
- real property and leaseholds;
- intellectual property;
- the validity of material contracts to which the parties or their subsidiaries are a party and any violation, default or breach of such contracts;
- regulatory compliance, permits and restrictions;
- legal proceedings and orders;
- tax matters;
- employee and labor matters and benefit plans;
- environmental matters;
- insurance;
- financial advisors fees;
- certain transactions or relationships with affiliates;
- with respect to Neoleukin, the valid issuance in the merger of Neoleukin common stock; and
- privacy and data security.

The representations and warranties are, in many respects, qualified by materiality and knowledge, and will not survive the merger, but their accuracy forms the basis of one of the conditions to the obligations of Neoleukin and Neurogene to complete the merger.

Covenants; Conduct of Business Pending the Merger

Neoleukin has agreed that, except as permitted by the Merger Agreement, as required by law, or unless Neurogene has provided written consent, during the period commencing on the date of the Merger Agreement and continuing until the earlier to occur of the effective time and the termination of the Merger Agreement, Neoleukin and its subsidiaries will use commercially reasonable efforts to conduct their business and operations in the ordinary course consistent with past practices and in compliance with all applicable laws, regulations and certain contracts. Neoleukin has also agreed that, subject to certain limited exceptions, without the consent of Neurogene, it will not, and will not cause or permit any of its subsidiaries to, during the period commencing on

the date of the Merger Agreement and continuing until the earlier to occur of the effective time and the termination of the Merger Agreement:

- declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock; or repurchase, redeem or otherwise reacquire any shares of capital stock or other securities or equity interests of Neoleukin or its subsidiary (except for such reacquisition of shares of Neoleukin common stock from terminated employees, directors or consultants of Neoleukin and distribution of the closing distribution to Neoleukin stockholders or holders or Neoleukin existing pre-funded warrants);
- sell, issue, grant, pledge or otherwise dispose of or encumber or authorize the issuance of any capital stock or other security or equity interest (except for Neoleukin common stock issued upon the valid exercise of outstanding Neoleukin options, Neoleukin existing pre-funded warrants, Neoleukin RSUs or pursuant to the Neoleukin 2020 Employee Stock Purchase Plan, as applicable, including any shares of Neoleukin common stock sold in connection with any such exercise or settlement for purposes of satisfying related tax obligations); any option, warrant or right to acquire any capital stock or any other security; or any instrument convertible into or exchangeable for any capital stock or other security;
- except as required to give effect to anything in contemplation of the closing or to the reverse stock split that was approved at Neoleukin's 2023 annual stockholder meeting, amend the certificate of incorporation, bylaws or other similar organizational documents of Neoleukin or its subsidiaries, or effect or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except as related to the transactions contemplated in the Merger Agreement;
- form any subsidiary or acquire any equity interest or other interest in any other entity or enter into any joint venture with any other entity;
- lend money to any person or entity; incur or guarantee any indebtedness for borrowed money; guarantee any debt securities of others; or make any capital expenditure or commitment, other than payments for the repair of replacement of capital equipment not in excess of $100,000 in the aggregate;
- other than as required to comply with an existing Neoleukin employee plan or in connection with any action that would not result in any obligations to make payments post-closing that are not accounted for in the definition of Neoleukin net cash: adopt, establish or enter into any Neoleukin employee plan, including, for the avoidance of doubt, any equity award plans; cause or permit any Neoleukin employee plan to be amended or terminated other than as required by law or in order to make amendments for purposes of Section 409A of the Code; increase the benefits under any Neoleukin employee plan; grant or announce any incentive awards, severance or termination pay, change in control, sale, transaction or similar bonuses, or other incentive compensation other than payment of annual incentive bonuses pursuant to an existing Neoleukin employee plan; pay any bonus or make any profit-sharing or similar payment to, or increase the amount of the wages, salary, commissions, fringe benefits or other compensation or remuneration payable to (except with respect to obligations in place on the date of the Merger Agreement pursuant to any Neoleukin employee plan disclosed to Neurogene), any of its directors, officers, employees or consultants; increase the severance or change of control benefits offered to any current or new employees, directors or consultants; or hire any officer, or employee;
- other than in connection with any actions that would not result in any obligations to make payments post-closing that are not accounted for in the definition of Neoleukin net cash, enter into any material transaction outside the ordinary course of business or, in any event, that would incur material expenditures in excess of $100,000 in the aggregate;
- acquire any material asset or sell, lease or otherwise irrevocably dispose of any of its assets or properties, or grant any encumbrance with respect to such assets or properties;
- sell, assign, transfer, license, sublicense or otherwise dispose of any material Neoleukin intellectual property rights (other than pursuant to non-exclusive licenses in the ordinary course of business);

- other than in the ordinary course of business: make, change or revoke any material tax election; file any amended income or other material tax return; adopt or change any material accounting method in respect of taxes, unless such change is required by GAAP; enter into any material tax closing agreement or settle any material tax claim or assessment; consent to any extension or waiver of the limitation period applicable to or relating to any material tax claim or assessment; or surrender any material claim for refund;
- waive, settle or compromise any pending or threatened legal proceeding against Neoleukin its subsidiaries, other than waivers, settlements or agreements (A) for an amount not in excess of $100,000 in the aggregate (excluding amounts to be paid under existing insurance policies or renewals thereof) and (B) that do not impose any material restrictions on the operations or businesses of Neoleukin or its subsidiaries, taken as a whole, or any equitable relief on, or the admission of wrongdoing by Neoleukin or its subsidiaries;
- delay or fail to repay when due any material obligation, including accounts payable and accrued expenses (provided, however, that any such accounts payable or accrued expenses need not be paid if the validity or amount thereof shall at the time be contested in good faith);
- forgive any loans to any person, including its employees, officers, directors or affiliates;
- terminate or modify in any material respect, or fail to exercise renewal rights to, any material insurance policy;
- (A) materially change pricing or royalties or other payments set or charged by Neoleukin or its subsidiary to its customers or licensees or (B) agree to materially change pricing or royalties or other payments set or charged by persons who have licensed intellectual property to Neoleukin or its subsidiary;
- enter into, amend or terminate any of Neoleukin's material contracts;
- enter into or amend a contract that would reasonably be expected to prevent or materially impede, interfere with, hinder or delay the consummation of the contemplated transaction; or
- agree, resolve or commit to do any of the foregoing.

Neurogene has agreed that, except as permitted by the Merger Agreement, including the subscription agreement, as required by law, or unless Neoleukin shall have provided written consent, during the period commencing on the date of the Merger Agreement and continuing until the earlier to occur of the effective time and the termination of the Merger Agreement, Neurogene will use commercially reasonable efforts to conduct its business and operations in the ordinary course consistent with past practices and in compliance with all applicable laws, regulations and certain contracts. Neurogene has also agreed that, subject to certain limited exceptions, without the consent of Neoleukin, it will not, and will not cause or permit its subsidiary to, during the period commencing on the date of the Merger Agreement and continuing until the earlier to occur of the effective time and the termination of the Merger Agreement:

- declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock; or repurchase, redeem or otherwise reacquire any shares of capital stock or other securities (except for shares of common stock from terminated employees, directors or consultants of Neurogene);
- except as required to give effect to anything in contemplation of the closing, effect or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except as related to the transactions contemplated in the Merger Agreement;
- sell, issue, grant, pledge or otherwise dispose of equity interests or encumber or authorize any of the foregoing actions with respect to (A) any capital stock or other security of Neurogene (except for

shares of outstanding Neurogene common stock issued upon the valid exercise or settlement of Neurogene options or RSUs in accordance with their terms as in effect as of the date of the Merger Agreement); (B) any option, warrant or right to acquire any capital stock or any other security; or (C) any instrument convertible into or exchangeable for any capital stock or other security of Neurogene, other than, with respect to clause (B), the grant of options and/or Neurogene RSUs in the ordinary course of business;

- form any subsidiary or acquire any equity interest or other interest in any other entity or enter into a joint venture with any other entity, other than in the ordinary course of business;
- lend money to any person or entity; incur or guarantee any indebtedness for borrowed money; guarantee any debt securities of others; or make any capital expenditure or commitment unless such capital expenditure or commitment is included in the Neurogene disclosure schedule;
- other than in the ordinary course of business, as required to comply with an existing Neurogene employee plan: adopt, establish or enter into any Neurogene employee plan, including, for the avoidance of doubt, any equity awards plans; cause or permit any Neurogene employee plan to be amended or terminated other than as required by law or in order to make amendments for the purposes of compliance with Section 409A of the Code; pay any bonus or make any material profit-sharing or similar payment to (except with respect to obligations in place on the date of the Merger Agreement, pursuant to any Neurogene employee plan disclosed to Neoleukin), or increase the amount of the wages, salary, commissions, fringe benefits or other compensation or remuneration payable to, any of its directors, officers or employees;
- enter into any material transaction outside the ordinary course of business;
- acquire any material asset or sell, lease or otherwise irrevocably dispose of any of its assets or properties, or grant any encumbrance with respect to such assets or properties, except in the ordinary course of business;
- sell, assign, transfer, license, sublicense or otherwise dispose of any material intellectual property rights owned by Neurogene, other than those pursuant to non-exclusive licenses in the ordinary course of business;
- other than in the ordinary course of business: make, change or revoke any material tax election; file any amended income or other material tax return; adopt or change any material accounting method in respect of taxes except such changes as required by GAAP; enter into any material tax closing agreement or settle any material tax claim or assessment; consent to any extension or waiver of the limitation period applicable to or relating to any material tax claim or assessment; or surrender any material claim for refund;
- waive, settle or compromise any pending or threatened legal proceeding against Neurogene, other than waivers, settlements or agreements (A) for an amount not in excess of $100,000 in the aggregate (excluding amounts to be paid under existing insurance policies or renewals thereof) and (B) that do not impose any material restrictions on the operations or businesses of Neurogene or any equitable relief on, or the admission of wrongdoing by Neurogene;
- delay or fail to repay when due any material obligation, including accounts payable and accrued expenses (provided, however, that any such accounts payable or accrued expenses need not be paid if the validity or amount thereof shall at the time be contested in good faith);
- forgive any loans to any person, including its employees, officers, directors or affiliate;
- terminate or modify in any material respect, or fail to exercise renewal rights with respect to, any material insurance policy;
- enter into, amend or terminate any of Neurogene’s material contracts, other than in the ordinary course of business;

- materially change pricing or royalties or other payments set or charged by Neurogene to its customers or licensees or agree to materially change pricing or royalties or other payments set or charged by persons or entities who have licensed intellectual property to Neurogene;
- enter into or amend a contract that would reasonably be expected to prevent or materially impede, interfere with, hinder or delay the consummation of the transaction; or
- agree, resolve or commit to do any of the foregoing.

Contingent Value Rights

Prior to the effective time, Neoleukin will declare a distribution to its common stockholders of record and holders of Neoleukin existing pre-funded warrants that are entitled to the closing distribution, in each case, of the right to receive one CVR for each outstanding share of Neoleukin common stock held by such stockholder as of such date or, in the case of Neoleukin existing pre-funded warrants that are entitled to the closing distribution, each share of Neoleukin common stock for which such Neoleukin warrant is exercisable. A Neoleukin option that remains outstanding as of the closing shall, upon exercise thereof, be entitled to receive, in addition to the shares of Neoleukin common stock issuable thereunder, one CVR for each outstanding share of Neoleukin common stock issued upon exercise of such Neoleukin option (but not any CVR payments that may have been distributed prior to such exercise). Each CVR will entitle the holder of the CVR to receive certain net proceeds, if any, derived from (a) certain net proceeds, if any, derived from any consideration that is paid as a result of the disposition of Neoleukin's pre-merger legacy assets pursuant to one or more agreements entered into before or within one year after the effective time and realized by June 30, 2029, (b) certain net savings, if any, realized by Neoleukin by June 30, 2029 in connection with the reduction of Neoleukin's legacy lease obligations, and (c) certain net proceeds, if any, derived from Neoleukin's anticipated sales tax refund from Washington State and received by Neoleukin by June 30, 2029, subject in each case to and in accordance with the terms and conditions of, the CVR Agreement, discussed in greater detail under the section entitled "*Agreements Related to the Merger—Contingent Value Rights Agreement*" beginning on page 178 in this proxy statement/prospectus. Payment will be made in cash or in shares of the combined company, at the election of the combined company. The record date for such distribution will be the close of business on the day on which the effective time occurs and the payment date will be three business days after the effective time; *provided* that the payment of such dividend may be conditioned upon the occurrence of the effective time. In connection with such dividend, Neoleukin will cause the CVR Agreement to be duly authorized, executed and delivered by Neoleukin and a rights agent jointly selected by Neoleukin and Neurogene.

Non-Solicitation

Each of Neoleukin and Neurogene have agreed that, except as described below, Neoleukin and Neurogene and any of their respective subsidiaries will not, nor will either party or any of its subsidiaries authorize any of the directors, officers, employees, agents, attorneys, accountants, investment bankers, advisors or representatives retained by it or any of its subsidiaries to, directly or indirectly:

- solicit, initiate or knowingly encourage, induce or facilitate the communication, making, submission or announcement of, any Acquisition Proposal or Acquisition Inquiry or take any action that could reasonably be expected to lead to an Acquisition Proposal or Acquisition Inquiry;
- furnish any non-public information with respect to it to any person in connection with or in response to an Acquisition Proposal or Acquisition Inquiry;
- engage in discussions or negotiations with any person with respect to any Acquisition Proposal or Acquisition Inquiry;
- approve, endorse or recommend an Acquisition Proposal (subject to certain exceptions);
- execute or enter into any letter of intent or any contract contemplating or otherwise relating to an Acquisition Proposal;

- take any action that would reasonably be expected to lead to an Acquisition Proposal or Acquisition Inquiry; or
- publicly propose to do any of the foregoing.

An "Acquisition Inquiry" means, with respect to a party, an inquiry, indication of interest or request for information (other than an inquiry, indication of interest or request for information made or submitted by Neurogene, on the one hand, or Neoleukin on the other hand, to the other party) that could reasonably be expected to lead to an Acquisition Proposal.

An "Acquisition Proposal" means, with respect to a party, any offer or proposal, whether written or oral (other than an offer or proposal made or submitted by or on behalf of Neurogene or any of its affiliates, on the one hand, or by or on behalf of Neoleukin or any of its affiliates, on the other hand, to the other party) contemplating or otherwise relating to any Acquisition Transaction with such party, other than a Neoleukin asset sale or the Neurogene pre-closing financing.

An "Acquisition Transaction" means any transaction or series of related transactions (other than a Neoleukin asset sale) involving:

- any merger, consolidation, amalgamation, share exchange, business combination, issuance or acquisition of securities, reorganization, recapitalization, tender offer, exchange offer or similar transaction: (i) in which Neoleukin, Neurogene or Merger Sub is a constituent entity, (ii) in which any individual, entity, governmental entity, or "group," as defined under applicable securities laws, directly or indirectly acquires beneficial or record ownership of securities representing more than 20% of the outstanding securities of any class of voting securities of Neoleukin, Neurogene or Merger Sub or any of their respective subsidiaries or (iii) in which Neoleukin, Neurogene or Merger Sub or any of their respective subsidiaries issues securities representing more than 20% of the outstanding securities of any class of voting securities of such party or any of its subsidiaries (except, in the case of Neurogene, the Neurogene pre-closing financing); or
- any sale, lease, exchange, transfer, license, acquisition or disposition of any business or businesses or assets that constitute or account for 20% or more of the consolidated book value or the fair market value of the assets of Neoleukin, Neurogene or Merger Sub and their respective subsidiaries, as applicable, taken as a whole.

Notwithstanding the foregoing, before obtaining the applicable approvals of the Neoleukin stockholders or Neurogene stockholders required to consummate the merger, each party may furnish non-public information regarding such party and its subsidiaries to, and may enter into discussions or negotiations with, any third party in response to a bona fide written Acquisition Proposal, which such party's board of directors determines in good faith, after consultation with such party's financial advisors and outside legal counsel, constitutes or is reasonably likely to result in a Superior Offer (and is not withdrawn), if:

- neither such party nor any representative of such party has breached the non-solicitation provisions of the Merger Agreement described above;
- such party's board of directors concludes in good faith, based on the advice of outside legal counsel, that the failure to take such action would reasonably be expected to be inconsistent with the fiduciary duties of such board of directors under applicable law;
- at least two business days prior to furnishing any non-public information or entering into discussions with a third party, such party gives the other party written notice of the identity of the third party and of that party's intention to furnish non-public information to, or enter into discussions with, such third party;
- such party receives from the third party an executed confidentiality agreement containing provisions at least as favorable to such party as those contained in the confidentiality agreement between Neoleukin and Neurogene; and

- at least two business days prior to furnishing any non-public information to a third party, such party furnishes the same non-public information to the other party to the extent not previously furnished.

A "Superior Offer" means an unsolicited *bona fide* written Acquisition Proposal (with all references to 20% in the definition of Acquisition Transaction being treated as references to 50% for these purposes) that (a) was not obtained or made as a direct or indirect result of a breach, or in violation, of the Merger Agreement, (b) is on terms and conditions that the board of directors of the party receiving the offer determines in good faith, based on such matters that it deems relevant (including the likelihood of consummation thereof and the financing terms thereof), as well as any written offer by the other party to the Merger Agreement to amend the terms of the Merger Agreement, and following consultation with its outside legal counsel and financial advisors, if any, are more favorable, from a financial point of view, to that party's stockholders than the terms of the transactions contemplated by the Merger Agreement, (c) is not subject to any financing conditions (and if financing is required, such financing is then fully committed to the third party) and (d) is reasonably capable of being completed on the terms proposed without unreasonable delay.

The Merger Agreement also provides that each party will promptly (and in no event later than one business day after such party becomes aware of such Acquisition Proposal or Acquisition Inquiry) advise the other party of the status and terms of, and keep the other party reasonably informed with respect to, any Acquisition Proposal or Acquisition Inquiry and any material modification or material proposed modification thereto.

Board Recommendation Change

Under the Merger Agreement, subject to certain exceptions described below, Neoleukin agreed that its board of directors may not withhold, amend, withdraw or modify (or publicly propose to withhold, amend, withdraw or modify) the recommendation of the Neoleukin board of directors in a manner adverse to Neurogene (each, a "Neoleukin board recommendation change").

However, notwithstanding the foregoing, at any time prior to the approval of the proposals to be considered at the Neoleukin special meeting by the necessary vote of Neoleukin stockholders, if Neoleukin has received a bona fide written Superior Offer, the Neoleukin board of directors may make a Neoleukin board recommendation change if, but only if, following the receipt of and on account of such Superior Offer:

- the Neoleukin board of directors determines in good faith, based on the advice of its outside legal counsel, that the failure to make a Neoleukin board recommendation change would reasonably be expected to be inconsistent with its fiduciary duties under applicable law;
- Neoleukin has, and has caused its financial advisors and outside legal counsel to have, during the required four business day notice period, negotiated with Neurogene in good faith to make such adjustments to the terms and conditions of the Merger Agreement so that such Acquisition Proposal ceases to constitute a Superior Offer; and
- if after Neurogene has delivered to Neoleukin a written offer to alter the terms or conditions of the Merger Agreement during the required four business day notice period, the Neoleukin board of directors has determined in good faith, based on the advice of its outside legal counsel, that the failure to make a Neoleukin board recommendation change would reasonably be expected to be inconsistent with its fiduciary duties under applicable law (after taking into account such alterations of the terms and conditions of the Merger Agreement); *provided* that (x) Neurogene receives written notice from Neoleukin confirming that the Neoleukin board of directors has determined to change its recommendation during the required notice period, which notice must include a description in reasonable detail of the reasons for such Neoleukin board recommendation change, and written copies of any relevant proposed transaction agreements with any party making a potential Superior Offer, (y) during any required notice period, Neurogene will be entitled to deliver to Neoleukin one or more counterproposals to such Acquisition Proposal and Neoleukin will, and will cause its representatives to,

negotiate with Neurogene in good faith (to the extent Neurogene desires to negotiate) to make such adjustments in the terms and conditions of the Merger Agreement so that the applicable Acquisition Proposal ceases to constitute a Superior Offer and (z) in the event of any material amendment to any Superior Offer (including any revision in the amount, form or mix of consideration that Neoleukin's stockholders would receive as a result of such potential Superior Offer), Neoleukin will be required to provide Neurogene with notice of such material amendment and the required notice period will be extended, if applicable, to ensure that at least three business days remain in the required notice period following such notification during which the parties must comply again with the requirements in this provision and the Neoleukin board of directors must not make a Neoleukin board recommendation change prior to the end of such notice period as so extended (it being understood that there may be multiple extensions).

Under the Merger Agreement, subject to certain exceptions described below, Neurogene agreed that its board of directors may not withhold, amend, withdraw or modify (or publicly propose to withhold, amend, withdraw or modify) the recommendation of the Neurogene board of directors in a manner adverse to Neoleukin (referred to in this proxy statement/prospectus as a Neurogene board recommendation change).

However, notwithstanding the foregoing, at any time prior to the approval and adoption of the Merger Agreement by the necessary vote of Neurogene stockholders, if Neurogene has received a bona fide written Superior Offer, the Neurogene board of directors may make a Neurogene board recommendation change if, but only if, but only if, following the receipt of and on account of such Superior Offer:

- the Neurogene board of directors determines in good faith, based on the advice of its outside legal counsel, that the failure to make a Neurogene board recommendation change would reasonably be expected to be inconsistent with its fiduciary duties under applicable law;
- Neurogene has, and has caused its financial advisors and outside legal counsel to have, during the required four business day notice period, negotiated with Neoleukin in good faith to make such adjustments to the terms and conditions of the Merger Agreement so that such Acquisition Proposal ceases to constitute a Superior Offer; and
- if after Neoleukin has delivered to Neurogene a written offer to alter the terms or conditions of the Merger Agreement during the required notice period, the Neurogene board of directors has determined in good faith, based on the advice of its outside legal counsel, that the failure to make a Neurogene board recommendation change would result in a breach of its fiduciary duties under applicable law (after taking into account such alterations of the terms and conditions of the Merger Agreement); *provided* that (x) Neoleukin receives written notice from Neurogene confirming that the Neurogene board of directors has determined to change its recommendation at least four business days in advance of the Neurogene board recommendation change, which notice must include a description in reasonable detail of the reasons for such Neurogene board recommendation change, and written copies of any relevant proposed transaction agreements with any party making a potential Superior Offer, (y) during any required notice period, Neoleukin will be entitled to deliver to Neurogene one or more counterproposals to such Acquisition Proposal and Neurogene will, and will cause its representatives to, negotiate with Neoleukin in good faith (to the extent Neoleukin desires to negotiate) to make such adjustments in the terms and conditions of Merger Agreement so that the applicable Acquisition Proposal ceases to constitute a Superior Offer and (z) in the event of any material amendment to any Superior Offer (including any revision in the amount, form or mix of consideration the Neurogene stockholders would receive as a result of such potential Superior Offer), Neurogene will be required to provide Neoleukin with notice of such material amendment and the required notice period will be extended, if applicable, to ensure that at least three business days remain in the required notice period following such notification during which the parties must comply again with the requirements in this provision and the Neurogene board of directors will not make a Neurogene board recommendation change prior to the end of such required notice period as so extended (it being understood that there may be multiple extensions).

Required Stockholder Approvals

Neoleukin is obligated under the Merger Agreement to take all action necessary under applicable law to call, give notice of and hold a meeting of the holders of Neoleukin common stock for the purpose of considering and voting to approve (i) the Merger Agreement and thereby to approve the transactions contemplated thereby and against any competing proposals being considered at the meeting pursuant to the terms of the Merger Agreement, (ii) an amendment to Neoleukin's charter to, if deemed appropriate by Neoleukin and Neurogene, (A) effect a reverse stock split and/or (B) increase the number of authorized shares of Neoleukin common stock, (iii) an increase in the number of shares available for issuance under Neoleukin's 2014 Equity Incentive Plan (the "Neoleukin 2014 Plan") by an amount directed by Neurogene and/or a new Neoleukin equity incentive plan, with the form of such Neoleukin equity incentive plan and number of shares of Neoleukin common stock available for issuance under such plan to be determined by Neurogene (subject in each case to the consent of Neoleukin, which consent shall not be unreasonably withheld, conditioned or delayed), and (iv) a new Neoleukin employee stock purchase plan, with the form of such Neoleukin employee stock purchase plan and number of shares of Neoleukin common stock available for issuance under such plan to be determined by Neurogene (subject to the consent of Neoleukin, which consent shall not be unreasonably withheld, conditioned or delayed) (collectively, the "Neoleukin merger proposals") . The Neoleukin special meeting will be held as promptly as practicable after this registration statement on Form S-4 is declared effective under the Securities Act, and in any event no later than 45 days after the effective date of this registration statement on Form S-4.

Promptly after the registration statement on Form S-4 has been declared effective, and no later than two business days thereafter, Neurogene is required to obtain the approval by written consent from (i) the holders of a majority of the outstanding shares of Neurogene common stock, voting as a single class on an as-converted basis and (ii) the holders of 62% of the outstanding shares of Neurogene preferred stock then held by qualified holders (as defined in the Second Amended and Restated Investors' Rights Agreement, by and between the parties thereto and Neurogene, dated March 4, 2022 (the "Neurogene Investors' Rights Agreement")), in each case, to (x) adopt and approve the Merger Agreement and the merger or the transactions contemplated thereby (including the merger), (y) acknowledge that the approval given thereby is irrevocable and that such stockholders are aware of their rights to demand appraisal for their shares pursuant to Section 262 of the DGCL, and that such stockholder has received and read a copy of Section 262 of the DGCL and (z) acknowledge that by their approval of the merger, they are not entitled to appraisal rights with respect to their shares in connection with the merger and thereby waive any rights to receive payment of the fair value of their capital stock under the DGCL. Reasonably promptly following receipt of such consents, Neurogene will prepare, and cause to be mailed to its stockholders who did not execute such consents, a notice in accordance with the DGCL.

Indemnification and Insurance for Directors and Officers

Under the Merger Agreement, from the effective time through the sixth anniversary of the date on which the effective time occurs, Neoleukin and the surviving corporation in the merger agreed to indemnify and hold harmless each person who is now, or has been at any time prior to the date of the Merger Agreement, or who becomes prior to the effective time, a director or officer of Neoleukin or Neurogene, respectively, against all claims, losses, liabilities, damages, judgments, fines and reasonable fees, costs and expenses, including attorneys' fees and disbursements, incurred in connection with any claim, action, suit, proceeding or investigation, whether civil, criminal, administrative or investigative, arising out of or pertaining to the fact that the indemnified officer or director is or was a director or officer of Neoleukin or of Neurogene, whether asserted or claimed prior to, at or after the effective time. From and after the effective time, Neoleukin and the surviving corporation in the merger will also fulfill Neoleukin's and Neurogene's indemnity obligations, respectively, to each person who is, has been, or who becomes prior to the effective time, a director or officer of Neoleukin or Neurogene.

The Merger Agreement also provides that the provisions of Neoleukin's charter and bylaws with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers of Neoleukin that are presently set forth in Neoleukin's charter and bylaws will not be amended modified or

repealed for a period of six years from the effective time in a manner that would adversely affect the rights thereunder of individuals who, at or prior to the effective time, were officers or directors of Neoleukin, unless such modification is required by applicable law. The certificate of incorporation and bylaws of the surviving corporation will contain, and Neoleukin will cause the certificate of incorporation and bylaws of the surviving corporation to so contain, provisions no less favorable with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers as those presently set forth in Neoleukin's charter and bylaws.

From and after the effective time, Neoleukin will maintain director and officers' liability insurance policies, with an effective date as of the closing date, on commercially available terms and conditions and with coverage limits customary for U.S. public companies similarly situated to Neoleukin. In addition, Neoleukin will secure and purchase a six year "tail policy" on Neoleukin's existing directors' and officers' liability insurance policy with an effective date as of the date of the closing.

Additional Agreements

Each of Neoleukin and Neurogene has agreed to use its reasonable best efforts to cause to be taken all actions necessary to consummate the merger and the other transactions contemplated by the Merger Agreement. In connection therewith, each party has agreed to:

- make all filings and other submissions (if any) and give all notices (if any) required to be made and given by such party in connection with the transactions contemplated by the Merger Agreement;
- use commercially reasonable efforts to obtain each consent (if any) reasonably required to be obtained (pursuant to any applicable law or contract, or otherwise) in connection with the merger and the other transactions contemplated by the Merger Agreement or for such contract to remain in full force and effect;
- use commercially reasonable efforts to lift any injunction prohibiting, or any other legal bar to, the transactions contemplated by the Merger Agreement; and
- use commercially reasonable efforts to satisfy the conditions precedent to the consummation of the Merger Agreement.

Pursuant to the Merger Agreement, Neoleukin and Neurogene have further agreed that:

- Neoleukin will use its commercially reasonable efforts to (i) cause the existing shares of Neoleukin common stock to be continually listed on Nasdaq as of and from the date of the Merger Agreement through the closing date and (ii) the shares of Neoleukin common stock being issued in the merger to be approved for listing on Nasdaq at or prior to the effective time.
- Neoleukin will keep Neurogene reasonably informed regarding any stockholder litigation against Neoleukin or any of its directors relating to the Merger Agreement or the transactions contemplated thereby. Neoleukin will (i) give Neurogene the opportunity to participate in, but not control, the defense, settlement or prosecution of any such litigation (to the extent that the attorney-client privilege is not undermined or otherwise adversely affected), (ii) consult with Neurogene with respect to the defense, settlement and prosecution of any such litigation and (iii) consider in good faith Neurogene's advice with respect to such litigation.

Conditions to the Completion of the Merger

The following contains a description of all material conditions to the completion of the merger.

Each party's obligation to complete the merger is subject to the satisfaction or, to the extent permitted by applicable law, the written waiver by each of the parties, at or prior to the closing, of various conditions, which include the following:

- the registration statement on Form S-4, of which this proxy statement/prospectus is a part, must have been declared effective by the SEC in accordance with the Securities Act and must not be subject to any stop order or proceeding, or any proceeding threatened by the SEC, seeking a stop order that has not been withdrawn; and any material state securities laws applicable to the issuance of the shares of Neoleukin common stock in connection with the merger or any of the other transactions contemplated by the Merger Agreement shall have been complied with and no stop order (or similar order) shall have been issued or threatened in writing in respect of such shares of Neoleukin common stock by any applicable state securities commissioner or court of competent jurisdiction;
- there must not have been issued, and remain in effect, any temporary restraining order, preliminary or permanent injunction or other order preventing the consummation of the merger or any of the other transactions contemplated by the Merger Agreement by any court of competent jurisdiction or other governmental authority of competent jurisdiction, and no law, statute, rule, regulation, ruling or decree will be in effect which has the effect of making the consummation of the merger or any of the other transactions contemplated by the Merger Agreement illegal;
- (i) the holders of a majority of the outstanding shares of Neurogene common stock, voting as a single class on an as-converted basis and (ii) the holders of 62% of the outstanding shares of Neurogene preferred stock then held by qualified holders (as defined in the Neurogene Investors' Rights Agreement) must have adopted and approved the Merger Agreement and the transactions contemplated thereby by written consent (the "Neurogene stockholder approval");
- the holders of the shares of Neoleukin common stock constituting a majority of the votes properly cast at the Neoleukin special meeting must have approved the Neoleukin merger proposals (the "Neoleukin stockholder approval"); and
- the approval of the listing of the additional shares of Neoleukin common stock on Nasdaq will have been obtained and the shares of Neoleukin common stock to be issued in the transactions contemplated by the Merger Agreement pursuant to the Merger Agreement will have been approved for listing (subject to official notice of issuance) on Nasdaq, including, without limitation, (i) shares of Neoleukin common stock issued upon the conversion of Neurogene capital stock (including (A) any Neurogene common stock and Neurogene pre-funded warrants issued pursuant to the Neurogene pre-closing financing and (B) any Neurogene capital stock otherwise outstanding immediately prior to the effective time of the merger) and (ii) shares of Neoleukin common stock underlying any Neoleukin pre-funded warrants issued pursuant to the Merger Agreement.

In addition, each party's obligation to complete the merger is further subject to the satisfaction or waiver by that party of the following additional conditions:

- the other party to the Merger Agreement must have performed or complied with in all material respects all of such party's agreements and covenants required to be performed or complied with by it under the Merger Agreement at or prior to the effective time; and
- the other party must have delivered certain certificates and other documents required under the Merger Agreement for the closing.

In addition, the obligation of Neoleukin and Merger Sub to complete the merger is further subject to the satisfaction or waiver of the following conditions:

- the representations and warranties regarding certain matters related to organization, organizational documents, authority, vote required and financial advisors of Neurogene in the Merger Agreement must be true and correct in all material respects on the date of the Merger Agreement and on the

closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then as of that particular date;

- the representations and warranties regarding certain capitalization matters of Neurogene in the Merger Agreement must be true and correct on the date of the Merger Agreement and on the closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then as of that particular date, except for such inaccuracies which are *de minimis*, individually or in the aggregate;
- the remaining representations and warranties of the Neurogene in the Merger Agreement must be accurate and complete on the date of the Merger Agreement and on the closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then as of that particular date, except in each case, or in the aggregate, where the failure to be so true and correct would not reasonably be expected to have a material adverse effect on Neurogene (without giving effect to any references therein to materiality qualifications);
- Neurogene shall have performed or complied with in all material respects all agreement and covenants required to be performed or complied with by it under the Merger Agreement at or prior to the effective time;
- Neoleukin shall have received certain customary documentation and certifications from Neurogene;
- there shall have been no effect, change, event, circumstance or development that (considered together with all other effects, changes, events, circumstances or developments that have occurred prior to the applicable date of determination) has or would reasonably be expected to have a material adverse effect on the business, financial condition, assets, liabilities or results of operations of Neurogene or its subsidiaries, taken as a whole; *provided* that effects, changes, events, circumstances or developments arising from the following will not be taken into account for purposes of determining whether such material adverse effect shall have occurred (except, with respect to certain effects, changes, events, circumstances or developments, to the extent disproportionately affecting Neurogene and its subsidiaries, taken as a whole, relative to other similarly situated companies in the industries in which Neurogene and its subsidiaries operate):
- the announcement of the Merger Agreement or the pendency of the transactions contemplated thereby;
- the taking of any action, or the failure to take any action, by Neurogene that is required to comply with the terms of the Merger Agreement;
- any natural disaster, calamity or epidemics, pandemics (including COVID-19 and any precautionary or emergency measures, recommendations, protocols or orders taken or issued by any person or entity in response to COVID-19) or other force majeure events, or any act or threat of terrorism or war, any armed hostilities or terrorist activities (including any escalation or general worsening of any of the foregoing) anywhere in the world or any governmental or other response or reaction to any of the foregoing;
- any change in generally accepted accounting principles or any change in applicable laws, rules or regulations or the interpretation thereof;
- general economic or political conditions or conditions generally affecting the industries in which Neurogene and its subsidiaries operate; or

any change in the cash position of Neurogene and its subsidiaries which results from operations in the ordinary course of business.

- Neurogene shall have obtained and delivered the Neurogene stockholder written consent; and

- the subscription agreement shall be in full force and effect and gross cash proceeds of not less than $75.0 million shall have been received by Neurogene, or will be received by Neurogene substantially simultaneously with the closing of the merger, in connection with the consummation of the transactions contemplated by the Subscription Agreement.

In addition, the obligation of Neurogene to complete the merger is further subject to the satisfaction or waiver of the following conditions:

- the representations and warranties regarding certain matters related to organization, organizational documents, authority, vote required and financial advisors of Neoleukin in the Merger Agreement must be true and correct in all material respects on the date of the Merger Agreement and true and correct on the closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then as of that particular date;
- the representations and warranties regarding capitalization matters of Neoleukin in the Merger Agreement must be true and correct in all respects on the date of the Merger Agreement and true and correct on the closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then as of that particular date, except for such inaccuracies which are *de minimis*, individually or in the aggregate, or such variances arising solely due to the transactions contemplated under the subscription agreement;
- the remaining representations and warranties of Neoleukin in the Merger Agreement must be true and correct on the date of the Merger Agreement and on the closing date of the merger with the same force and effect as if made on the date on which the merger is to be completed or, if such representations and warranties address matters as of a particular date, then as of that particular date, except in each case, or in the aggregate, where the failure to be so true and correct would not reasonably be expected to have a material adverse effect on Neoleukin (without giving effect to any references therein to materiality qualifications);
- there shall have been no effect, change, event, circumstance or development that (considered together with all other effects, changes, circumstances or developments that have occurred prior to the applicable date of determination) has or would reasonably be expected to have a material adverse effect on the business, financial condition, assets, liabilities or results of operations of Neoleukin and its subsidiaries, taken as a whole; *provided*, that effects, changes, events, circumstances or developments resulting from the following shall not be taken into account for purposes of determining whether such material adverse effect shall have occurred (except, with respect to certain effects, changes, events, circumstances or developments, to the extent disproportionately affecting Neoleukin and its subsidiaries, taken as a whole, relative to other similarly situated companies in the industries in which Neoleukin and its subsidiaries operate):
- the announcement of the Merger Agreement or the pendency of the transactions contemplated thereby;
- any change in the stock price or trading volume of Neoleukin common stock (it being understood, however, that any effect causing or contributing to any change in stock price or trading volume of Neoleukin common stock may be taken into account in determining whether a material adverse effect with respect to Neoleukin has occurred, unless such effects are otherwise excepted from such determination pursuant to the terms of the Merger Agreement);
- the taking of any action, or the failure to take any action, by Neoleukin that is required to comply with the terms of the Merger Agreement;
- any natural disaster, calamity or epidemics, pandemics (including COVID-19 and any precautionary or emergency measures, recommendations, protocols or orders taken or issued by any person or entity in response to COVID-19) or other force majeure events, or any act or threat of terrorism or war, any

armed hostilities or terrorist activities (including any escalation or general worsening of any of the foregoing) anywhere in the world or any governmental or other response or reaction to any of the foregoing;

- any change in generally accepted accounting principles or any change in applicable laws, rules or regulations or the interpretation thereof; or
- general economic or political conditions or conditions generally affecting the industries in which Neoleukin and its subsidiaries operate;

and, notwithstanding the foregoing, a delisting of the Neoleukin common stock on Nasdaq shall constitute such a material adverse effect.

- Neoleukin shall have performed or complied in all material respects all agreement and covenants required to be performed or complied with by it under the Merger Agreement at or prior to the effective time; and
- Neurogene shall have received certain customary documentation and certifications from Neurogene.

Termination and Termination Fees

Termination of the Merger Agreement

The Merger Agreement may be terminated at any time before the effective time, whether before or after the required stockholder approvals to complete the merger have been obtained, as set forth below:

(a) by mutual written consent of Neoleukin and Neurogene;

(b) by either Neoleukin or Neurogene, if the merger has not been consummated by January 17, 2024 (the "end date") (subject to possible extension as provided in the Merger Agreement); provided that in the event that the SEC has declared effective under the Securities Act the registration statement on Form S-4 by the end date, then either Neurogene or Neoleukin shall be entitled to extend the end date for an additional sixty days in order to hold the Neoleukin stockholder meeting and obtain the Neoleukin stockholder merger vote; *provided, however*, that this right to terminate the Merger Agreement will not be available to any party whose action or failure to act has been a principal cause of the failure of the merger to occur on or before the end date and such action or failure to act constitutes a breach of the Merger Agreement;

(c) by either Neoleukin or Neurogene, if a court of competent jurisdiction or governmental entity has issued a final and non-appealable order, decree or ruling or taken any other action that permanently restrains, enjoins or otherwise prohibits the merger or any of the transactions contemplated by the Merger Agreement;

(d) by Neoleukin, if the Neurogene stockholder approval has not been obtained within two business days of the registration statement on Form S-4, of which this proxy statement/prospectus is a part, becoming effective; *provided* that this right to terminate the Merger Agreement will not be available to Neoleukin once Neurogene obtains such stockholder approval;

(e) by either Neoleukin or Neurogene, if the Neoleukin special meeting has been held and completed and Neoleukin stockholders have taken a final vote on the merger proposals set forth herein to be considered at the Neoleukin special meeting, and such proposals have not been approved by the Neoleukin stockholders; *provided*, however, that the right to terminate the Merger Agreement shall not be available to Neoleukin where the failure to obtain the Neoleukin stockholder merger vote shall have been caused by the action or failure to act of Neoleukin and such action or failure to act constitutes a material breach by Neoleukin of the Merger Agreement;

(f) by Neurogene, at any time prior to obtaining the approval by Neoleukin stockholders of the merger proposals set forth herein to be considered at the Neoleukin special meeting, if any of the following circumstances shall occur:

- Neoleukin fails to include in this proxy statement/prospectus the Neoleukin board of directors' recommendation that Neoleukin stockholders vote to approve the merger proposals set forth herein to be considered at the Neoleukin special meeting;
- the Neoleukin board of directors, or any committee thereof, makes a Neoleukin board recommendation change or approves, endorses or recommends any Acquisition Proposal; or
- Neoleukin enters into any letter of intent or similar document or any contract relating to any Acquisition Proposal, other than a confidentiality agreement permitted pursuant to the Merger Agreement;

(g) by Neoleukin, at any time prior to obtaining the Neurogene stockholder approval, if any of the following circumstances shall occur:

- the Neurogene board of directors makes a Neurogene board recommendation change or approves, endorses or recommends any Acquisition Proposal; or
- Neurogene enters into any letter of intent or similar document or any contract relating to any Acquisition Proposal;

(h) by Neurogene, if Neoleukin or Merger Sub has breached any of its representations, warranties, covenants or agreements contained in the Merger Agreement or if any representation or warranty of Neoleukin has become inaccurate, in either case such that the conditions to the closing would not be satisfied as of time of such breach or inaccuracy; *provided* that Neurogene is not then in material breach of any representation, warranty covenant or agreement under the Merger Agreement; *provided, further*, if such breach or inaccuracy is curable, then the Merger Agreement will not terminate pursuant to this paragraph as a result of a particular breach or inaccuracy until the earlier of the expiration of a 30-day period after delivery of written notice of such breach or inaccuracy from Neurogene to Neoleukin or Merger Sub and Neurogene's intention to terminate pursuant to this paragraph (it being understood that the Merger Agreement will not terminate pursuant to this paragraph as a result of such particular breach or inaccuracy if such breach by Neoleukin or Merger Sub is cured prior to such termination becoming effective);

(i) by Neoleukin, if Neurogene has breached any of its representations, warranties, covenants or agreements contained in the Merger Agreement or if any representation or warranty of Neurogene has become inaccurate, in either case such that the conditions to the closing would not be satisfied as of time of such breach or inaccuracy; *provided* that Neoleukin is not then in material breach of any representation, warranty covenant or agreement under the Merger Agreement; *provided, further*, if such breach or inaccuracy is curable, then the Merger Agreement will not terminate pursuant to this paragraph as a result of a particular breach or inaccuracy until the earlier of the expiration of a 30-day period after delivery of written notice of such breach or inaccuracy from Neoleukin to Neurogene and Neoleukin's intention to terminate pursuant to this paragraph (it being understood that the Merger Agreement will not terminate pursuant to this paragraph as a result of such particular breach or inaccuracy if such breach by Neurogene is cured prior to such termination becoming effective); or

(j) by Neoleukin (at any time prior to obtaining the Neoleukin stockholder approval), upon the Neoleukin board of directors authorizing Neoleukin to enter into a definitive agreement that contemplates or otherwise relates to an Acquisition Transaction that constitutes a Superior Offer, subject to certain conditions.

The party desiring to terminate the Merger Agreement will give the other party written notice of such termination, specifying the provisions hereof pursuant to which such termination is made and the basis for termination described in reasonable detail.

Termination Fees Payable by Neoleukin

Neoleukin must pay Neurogene a termination fee of $3.04 million if (i) the Merger Agreement is terminated by Neoleukin or Neurogene pursuant to clause (c) above or by Neurogene pursuant to clause (f) above, (ii) at any time after the date of the Merger Agreement and prior to the Neoleukin special meeting, an Acquisition Proposal with respect to Neoleukin will have been publicly announced, disclosed or otherwise communicated to the Neoleukin board of directors (and will not have been withdrawn), and (iii) in the event the Merger Agreement is terminated pursuant to clause (e) above, within 12 months after the date of such termination, Neoleukin enters into a definitive agreement with respect to a subsequent transaction or consummates a subsequent transaction.

Neoleukin must reimburse Neurogene for expenses incurred by Neurogene in connection with the Merger Agreement and the transactions contemplated thereby, up to a maximum of $1.0 million if Neurogene terminates the Merger Agreement pursuant to clause (h) above.

Termination Fees Payable by Neurogene

Neurogene must pay Neoleukin a termination fee of $12.0 million if (i) the Merger Agreement is terminated by Neoleukin pursuant to clause (d) or (g) above, (ii) at any time after the date of the Merger Agreement and before obtaining the Neurogene stockholder approval, an Acquisition Proposal with respect to Neurogene will have been publicly announced, disclosed or otherwise communicated to the Neurogene board of directors (and will not have been withdrawn), and (iii) in the event the Merger Agreement is terminated pursuant to clause (d) above, within 12 months after the date of such termination, Neurogene enters into a definitive agreement with respect to a subsequent transaction or consummates a subsequent transaction.

Neurogene must reimburse Neoleukin for expenses incurred by Neoleukin in connection with the Merger Agreement and the transactions contemplated thereby, up to a maximum of $1.0 million if Neoleukin terminates the Merger Agreement pursuant to clause (g) or (i) above.

Amendment and Waiver

The Merger Agreement may not be amended except by an instrument in writing signed on behalf of each of Neurogene, Merger Sub and Neoleukin. Such amendment requires the approval of the respective boards of directors of Neurogene, Merger Sub and Neoleukin at any time, except that after the Merger Agreement has been adopted and approved by the Neurogene stockholders or Neoleukin stockholders, no amendment which by law requires further approval by the Neurogene stockholders or Neoleukin stockholders, as the case may be, may be made without such further approval.

Any provision of the Merger Agreement may be waived by any party solely on that party's behalf, without the consent of any other party. The waiver must be expressly set forth in a written instrument duly executed and delivered on behalf of such party, which will only be valid in the specific instance in which it is given. No failure or delay on the part of any party with respect to the exercise of any power, right, privilege or remedy under the Merger Agreement will operate as a waiver of such power, right, privilege or remedy. Furthermore, no single or partial exercise of any such power, right, privilege or remedy will preclude any other or further exercise thereof or of any other power, right, privilege or remedy.

Fees and Expenses

The Merger Agreement provides all fees and expenses incurred in connection with the Merger Agreement and the transactions contemplated thereby shall be paid by the party incurring such expenses, except as described above in the section entitled "*—Termination and Termination Fees*" beginning on page 172 of this proxy statement/prospectus, and except that Neurogene and Neoleukin will share in any fees and expenses incurred in relation to the Nasdaq fees associated with the continued listing of Neoleukin's securities on Nasdaq and the initial listing application on a pro rata basis based on the percentage of the combined company owned by the stockholders of the respective companies immediately before the effective time.

AGREEMENTS RELATED TO THE MERGER

Support Agreements

In order to induce Neoleukin to enter into the Merger Agreement, certain Neurogene stockholders are parties to support agreements with Neoleukin and Neurogene pursuant to which, among other things, each such stockholder, solely in his, her or its capacity as a Neurogene stockholder, has agreed to vote all of such stockholder's shares of Neurogene capital stock in favor of (i) the adoption of the Merger Agreement and (ii) the approval of the merger and related transactions contemplated by the Merger Agreement. These Neurogene stockholders also agreed to vote against any competing Acquisition Proposal with respect to Neurogene.

These Neurogene stockholders have also granted Neurogene an irrevocable proxy to vote their respective shares of Neurogene capital stock in accordance with the support agreements. These Neurogene stockholders have also agreed not to solicit any Acquisition Proposals or Acquisition Inquiries, and agreed to waive any appraisal or dissenters' rights relating to the merger.

As of July 17, 2023, the Neurogene stockholders that are party to a support agreement with Neurogene and Neoleukin owned approximately 77% of the outstanding shares of Neurogene capital stock. Following the effectiveness of the registration statement on Form S-4 of which this proxy statement/prospectus is a part and pursuant to the Merger Agreement, Neurogene stockholders holding a sufficient number of shares of Neurogene capital stock to adopt the Merger Agreement and approve the merger and related transactions will execute a written consent providing for such adoption and approval. Therefore, holders of a sufficient number of shares of Neurogene capital stock required to adopt the Merger Agreement and approve the merger and related transactions are contractually obligated to adopt the Merger Agreement and are expected to adopt the Merger Agreement via written consent.

Under these support agreements, such stockholders have also agreed not to sell or transfer their shares of Neurogene capital stock and securities convertible into shares of Neurogene capital stock held by them, or any voting rights with respect thereto, until the earliest to occur of the termination of the Merger Agreement, the completion of the merger, and the termination of the support agreement, subject to certain exceptions. To the extent that any such sale or transfer is permitted pursuant to the exceptions included in the support agreement, each person to which any shares of Neurogene capital stock or securities convertible into shares of Neurogene capital stock are so sold or transferred must agree in writing to be bound by the terms and provisions of the support agreement.

In addition, in order to induce Neurogene to enter into the Merger Agreement, certain Neoleukin stockholders are parties to support agreements with Neoleukin and Neurogene pursuant to which, among other things, each such stockholder, solely in his, her or its capacity as a Neoleukin stockholder, has agreed to vote all of such stockholder's shares of Neoleukin common stock in favor of (i) the Merger Agreement (ii) an amendment to Neoleukin's charter to, if deemed appropriate by the parties, (a) effect a reverse stock split and/or (b) increase the number of authorized shares of Neoleukin's common stock, (iii) an increase in the number of shares available for issuance under Neoleukin's existing equity incentive plan and/or approval of a new equity incentive plan, and (iv) a new employee stock purchase plan. These Neoleukin stockholders also agreed to vote against any competing Acquisition Proposal with respect to Neoleukin.

These Neoleukin stockholders have also granted Neoleukin an irrevocable proxy to vote their respective shares of Neoleukin common stock in accordance with the support agreements. These Neoleukin stockholders have also agreed not to solicit any Acquisition Proposals or Acquisition Inquiries, and agreed to waive any appraisal or dissenters' rights relating to the merger.

As of July 17, 2023, the Neoleukin stockholders that are party to support agreements with Neoleukin and Neurogene owned approximately 21% of the outstanding shares of Neoleukin common stock. These stockholders include executive officers and directors of Neoleukin, as well as certain other stockholders owning a significant portion of the outstanding shares of Neoleukin common stock.

Under these support agreements, such stockholders have also agreed not to sell or transfer their shares of Neoleukin common stock and securities convertible into shares of Neoleukin common stock held by them, or any voting rights with respect thereto, until the earliest to occur of the termination of the Merger Agreement, the completion of the merger, and the termination of the support agreement, subject to certain exceptions. To the extent that any such sale or transfer is permitted pursuant to the exceptions included in the support agreement, each person to which any shares of Neoleukin common stock or securities convertible into shares of Neoleukin common stock are so sold or transferred must agree in writing to be bound by the terms and provisions of the support agreement.

The foregoing descriptions of the support agreements do not purport to be complete and are qualified in their entirety by the full text of the forms of support agreements, which are filed as exhibits to the registration statement of which this proxy statement/prospectus forms part.

Lock-Up Agreements

Certain of Neurogene's executive officers, directors and stockholders have entered into lock-up agreements, pursuant to which such parties have agreed not to, except in limited circumstances, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, certain shares of Neoleukin's common stock or any securities convertible into or exercisable or exchangeable for Neoleukin common stock, currently or thereafter owned from the effective time until 180 days after the effective time. However, shares and pre-funded warrants issued in exchange for shares and pre-funded warrants purchased in the Neurogene pre-closing financing are not subject to these lock-up agreements.

The Neurogene stockholders who have executed lock-up agreements as of July 17, 2023 owned, in the aggregate, approximately 87.29% of the shares of Neurogene's outstanding capital stock.

Certain of Neoleukin's directors have entered into lock-up agreements, pursuant to which such directors have agreed not to, except in limited circumstances, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Neoleukin's common stock or any securities convertible into or exercisable or exchangeable for Neoleukin common stock, currently or thereafter owned, until 180 days after the effective time.

Neoleukin stockholders who have executed lock-up agreements as of July 17, 2023 owned, in the aggregate, approximately 15.3% of the shares of Neoleukin common stock, including certain significant holders of Neoleukin capital stock who are also holders of Neurogene capital stock and/or pre-funded warrants.

The foregoing description of the lock-up agreements does not purport to be complete and is qualified in its entirety by the full text of the form of lock-up agreement, which is filed as an exhibit to the registration statement of which this proxy statement/prospectus forms part.

Subscription Agreement

Immediately prior to the execution and delivery of the Merger Agreement, certain new and existing investors of Neurogene entered into a subscription agreement with Neurogene, pursuant to which such investors have agreed to purchase Neurogene common stock or, in lieu thereof, pre-funded warrants, representing an aggregate commitment of $95.0 million in the Neurogene pre-closing financing.

The shares of Neurogene common stock and pre-funded warrants that are issued in the Neurogene pre-closing financing will be or will have the right to be, respectively, converted into shares of Neoleukin common stock or pre-funded warrants in the merger. Accordingly, by approving Proposal No. 1 relating to the

merger, Neoleukin stockholders will also be approving the issuance of shares of Neoleukin common stock to be issued in exchange for all shares of Neurogene common stock and pre-funded warrants that are sold in the Neurogene pre-closing financing.

The subscription agreement contains customary representations and warranties of Neurogene and also contains customary representations and warranties of the purchasers party thereto.

Each purchaser's obligation to purchase shares of Neurogene common stock and/or pre-funded warrants from Neurogene pursuant to the subscription agreement is subject to the satisfaction or waiver of certain conditions, including:

- Neurogene's representations and warranties in the subscription agreement being true and correct in all respects as of the effective date of the subscription agreement and true and correct in all material respects as of closing date for the Neurogene pre-closing financing, subject to certain exceptions;
- Neurogene having performed and complied in all material respects with all covenants, agreements, obligations and conditions required to be performed or complied with by it;
- the issuance of a compliance certificate by the chief financial officer of Neurogene;
- all registrations, qualifications, permits and approvals, if any, required under applicable state securities laws having been obtained;
- the satisfaction or waiver of all conditions to the closing of the merger set forth in the Merger Agreement (other than the condition regarding the Neurogene pre-closing financing) and the closing of merger being set to occur immediately following the closing of the Neurogene pre-closing financing, including the receipt of Nasdaq listing approval, no Neurogene material adverse effect or, to Neurogene's knowledge, Neoleukin material adverse effect, and Neoleukin's net cash at closing being equal to an amount not less than $60.0 million;
- no injunction having been issued prohibiting the consummation of the Neurogene pre-closing financing; and
- receipt of at least $75.0 million in connection with the Neurogene pre-closing financing.

Neurogene's obligation to sell shares of Neurogene common stock and/or pre-funded warrants to each purchaser pursuant to the subscription agreement is subject to the satisfaction or waiver of certain conditions, including:

- the representations and warranties made by the purchasers being true and correct as of the effective date of the subscription agreement and true and correct in all material respects as of the closing date of the Neurogene pre-closing financing, subject to certain exceptions;
- each purchaser having performed and complied in all material respects with all covenants, agreements, obligations and conditions required to be performed or complied with by each purchaser;
- all registrations, qualifications, permits and approvals, if any, required under applicable state securities laws having been obtained; and
- the satisfaction or waiver of all conditions to the closing of the merger set forth in the Merger Agreement (other than the condition regarding the Neurogene pre-closing financing) and the closing of merger being set to occur substantially concurrently with the closing of the Neurogene pre-closing financing.

Prior to consummation of the transactions contemplated thereby the subscription agreement may be changed, waived, amended or modified only by a written instrument executed by Neurogene and each purchaser. The subscription agreement may be terminated upon the earlier to occur of (i) such date and time that the Merger

Agreement is terminated in accordance with its terms, (ii) upon the mutual written agreement of Neurogene and the purchaser, (iii) if the closing conditions have not been satisfied as of the time required to be so satisfied or waived such that the transactions contemplated by the subscription agreement are not consummated and (iv) if the closing has not occurred on or before January 17, 2024, other than as a result of a willful breach of a purchaser's obligations under the subscription agreement.

Contingent Value Rights Agreement

The CVRs will be governed by the terms of the CVR Agreement, which will be entered into at or prior to the effective time by Neoleukin and a rights agent to be designated by Neoleukin prior to the closing.

As provided in the Merger Agreement, Neoleukin intends to declare a distribution to holders of Neoleukin common stock and to holders of Neoleukin existing pre-funded warrants, in each case, of record as of immediately prior to the effective time of the merger, of the right to receive one non-transferable CVR for each outstanding share of Neoleukin common stock held by such stockholder as of such date (or, in the case of Neoleukin existing pre-funded warrants that are entitled to the distribution, each share of Neoleukin common stock for which such Neoleukin warrant is exercisable), each representing the non-transferable contractual right to receive certain contingent payments from Neoleukin upon the occurrence of certain events within agreed time periods. A Neoleukin option that remains outstanding as of the Closing shall, upon exercise thereof, be entitled to receive, in addition to the shares of Neoleukin common stock issuable thereunder, one CVR for each outstanding share of Neoleukin common stock issued upon exercise of such Neoleukin option (but not any CVR payments that may have been distributed prior to such exercise).

Characteristics of the CVRs; Restrictions on Transfer

The CVRs may not be sold, assigned, transferred, pledged, encumbered or otherwise transferred or disposed of, in whole or in part, other than pursuant to any of the following permitted transfers: (i) upon death of a holder thereof by will or intestacy; (ii) pursuant to a court order; (iii) by operation of law (including by consolidation or merger) or without consideration in connection with the dissolution, liquidation or termination of any corporation, limited liability company, partnership or other entity; (iv) in the case of CVRs held in book-entry or other similar nominee form, from a nominee to a beneficial owner and, if applicable, through an intermediary, to the extent allowable by DTC; or (v) as the CVRs may be abandoned in accordance with the terms of the CVR Agreement.

The CVRs will not be evidenced by a certificate or any other instrument. The CVRs will not have any voting or dividend rights, and interest will not accrue on any amounts payable in respect of the CVRs. The CVRs will not represent any equity or ownership interest in Neoleukin or any of its subsidiaries.

The rights agent will maintain an up-to-date register (the "CVR register") for the purpose of registering the CVRs and permitted transfers thereof. Neoleukin's obligation to make the CVR payment, if any becomes due, is neither secured nor guaranteed by Neoleukin or any of its affiliates.

CVR Payments

Pursuant to, and subject to the terms and conditions of, the CVR Agreement, each CVR holder is entitled to certain rights to receive, during a period from the closing of the merger until June 30, 2029 (the "CVR term"), a pro rata portion of (i) a reduction, if any, in the liabilities of Neoleukin's lease obligations resulting from a termination, assignment or sublease of any such lease obligation and (ii) the net proceeds, if any, derived from (a) 100% of any cash consideration and the actual liquidation value of any non-cash consideration of any kind that is paid to Neoleukin as a result of disposition (including any disposition providing for milestone payments, royalty payments or similar payments received pursuant to licensing arrangements or strategic partnerships) of certain Neoleukin pre-merger assets occurring prior to the closing of the merger, (b) 80% of all cash

consideration and the actual liquidation value of any non-cash consideration of any kind that is paid to Neoleukin as a result of a disposition (including any disposition providing for milestone payments, royalty payments or similar payments received pursuant to licensing arrangements or strategic partnerships) of certain Neoleukin pre-merger assets occurring subsequent to the closing of the merger and within 12 months thereafter, and (c) 100% of any tax refunds from the State of Washington received relating to tax returns filed by Neoleukin prior to the closing of the merger, with respect to such net proceeds, net of the following permitted deductions (in each case as calculated in accordance with GAAP in a manner consistent with Neoleukin's accounting practices and the most recently filed annual audited financial statements with the SEC):

- applicable tax imposed on the gross proceeds;
- to the extent in excess, together with any permitted deductions relating to Neoleukin's out-of-pocket expenses incurred in connection with the negotiation, entry into or closing of the sale of a Neoleukin pre-merger asset, in the aggregate, of the CVR holdback for the Neoleukin legacy transaction (the "CVR holdback"), any out-of-pocket expenses incurred by Neoleukin or its affiliates in respect of its performance of the CVR Agreement (other than the fees of the rights agent and any out-of-pocket expenses incurred in the ordinary course in connection with SEC reporting and related financial reporting/accounting matters pertaining to this CVR Agreement) due in the ordinary course), or in respect of its performance of any contract, in connection with any of Neoleukin's pre-merger assets;
- to the extent in excess, together with any permitted deductions relating to Neoleukin's out-of-pocket expenses incurred in respect of its performance of the CVR Agreement or its performance of any contract in connection with any of Neoleukin's pre-merger assets, in the aggregate, of the CVR holdback amount for the Neoleukin legacy transaction, any expenses incurred by Neoleukin or its affiliates in respect of the negotiation, entry into or the closing of a Neoleukin pre-merger asset sale;
- any losses incurred or reasonably expected to be incurred by Neoleukin or its affiliates arising out of any third-party claims relating to or in connection with any Neoleukin asset sale, including indemnification obligations of Neoleukin or any of its affiliates set forth in a definitive written agreement with respect to a Neoleukin asset sale or the CVR Agreement, provided that such actual or potential losses shall no longer be a permitted deduction once the risk of loss has lapsed (at which point the remaining balance shall be subject to distribution);
- any proceeds in consideration for a Neoleukin asset sale pursuant to a definitive written agreement included in the final determination of Neoleukin's net cash in accordance with the Merger Agreement;
- any liabilities borne by Neoleukin or its affiliates pursuant to contracts related to Neoleukin's pre-merger assets, including costs arising from the termination thereof;
- any liabilities that would have been required to be included in the calculation of Neoleukin's net cash to the extent not already taken into account, net of the amount of any difference between the accrued amount of any liabilities that were included in the calculation of Neoleukin's net cash and the actual value of such liabilities to the extent the actual value is less than the accrued value; and
- and any liabilities incurred by Neoleukin in pursuit of tax refunds relating to tax returns filed by Neoleukin prior to the closing of the merger.

After the CVR term, no CVR holders will be entitled to any payments under the CVR Agreement.

Withholding

The CVR Agreement provides that Neoleukin, in its reasonable discretion as resolved by Neoleukin's board, may withhold up to 15% of any payment payable to CVR holders pursuant to the CVR Agreement to provide for the satisfaction of (i) indemnity obligations under any definitive written agreement with respect to a Neoleukin asset sale in excess of any escrow fund established therein, in each case to the extent not already deducted as permitted deductions and (ii) any loss arising out of any third-party claims, demands, actions, or other proceedings relating to or in connection with any of Neoleukin's pre-merger assets during the CVR term.

Payment Procedures

No later than 45 days following (a) the end of each calendar quarter or (b) the end of each calendar half following the closing, as applicable, the combined company will deliver to the rights agent either (i) a cash payment equal to the net proceeds from the disposition of Neoleukin legacy assets or receipt of the State of Washington tax refund (provided, in the case of the receipt of the State of Washington tax refund, that such amount will only be included in the applicable CVR payment and subsequently distributed to CVR holders on the earlier of (A) the first calendar quarter in which such CVR payment and any other CVR payment is payable or (B) the date that is three years from the date on which such State of Washington tax refund is received) (collectively, the "net proceeds"), or any reduction in the liabilities of any Neoleukin's lease obligations ("lease CVR amount") or (ii) a number of shares of common stock equal to the quotient of dividing (A) the sum of the lease CVR amount and the net proceeds by (B) the volume weighted average price of the common stock of the combined company for the five trading days ending the day prior to the date of the issuance of the shares for the applicable payment period.

Amendment and Termination of the CVR Agreement

Neoleukin may, at any time and from time to time, enter into one or more amendments to the CVR Agreement for any of the following purposes, without the consent of any of the holders of CVRs:

- to evidence the appointment of another person as a successor rights agent and the assumption by any successor rights agent of the covenants and obligations of the rights agent pursuant to the CVR Agreement;
- with consent of the person serving as lease representative prior to such amendment, to evidence the appointment of another person as a successor rights agent and the assumption of such successor of the covenants and obligations of the preceding rights agent in the CVR Agreement;
- to evidence the succession of another person to Neoleukin and the assumption of any such successor of the covenants of Neoleukin pursuant to the CVR Agreement;
- to add to the covenants of Neoleukin such further covenants, restrictions, conditions or provisions as Neoleukin and the right agent will consider to be for the protection and benefit of the holders of CVRs, provided that such provisions do not adversely affect the interests of the holders of CVRs;
- to cure any ambiguity or inconsistency, provided such provisions do not adversely effect interests of the holders of CVRs;
- as may be necessary or appropriate to ensure that CVRs are not subject to registration under the Securities Act or the Exchange Act and the rules and regulations made thereunder, or any applicable state securities or "blue sky" laws;
- as may be necessary or appropriate to ensure that Neoleukin is not required to produce a prospectus or an admission document in order to comply with applicable law;
- to cancel CVRs (i) in the event that any holder of CVRs has abandoned its rights to such CVRs or (ii) following a transfer of such CVRs to Neoleukin or its affiliates;
- as may be necessary or appropriate to ensure that Neoleukin complies with applicable law; or
- for the purpose of adding, eliminating or changing any provisions, provided that, in each case, such additions, eliminations or changes do not adversely affect the interests of the holders of CVRs.

Neoleukin will (or will cause the rights agent to) provide notice in general terms of the substance of any amendment to the CVR Agreement to the holders of the CVRs promptly after execution by Neoleukin and the rights agent, if applicable, of such amendment.

The CVR Agreement will terminate and be of no force or effect, the parties will have no liability thereunder, and the CVRs will expire without any consideration or compensation therefore, upon the expiration of the CVR term.

Other Provisions of the CVR Agreement

The CVR Agreement also provides, among other things, for:

- the duties, responsibilities, rights and immunities of the rights agent, and procedures for the resignation or removal of the rights agent and appointment of a successor;
- a prohibition on Neoleukin granting any lien, security, interest, pledge or similar interest in any potentially transferrable assets or any CVR proceeds, unless approved by the holders of more than 30% of the then-outstanding CVRs; and
- the application of laws of the State of Delaware, exclusive jurisdiction over the parties by the Chancery Court of the State of Delaware or, if under applicable law exclusive jurisdiction is vested in the Federal courts, the United States District Court for the District of Delaware (and appellate courts thereof), and waiver of trial by jury.

The foregoing description of the CVR Agreement does not purport to be complete and is qualified in its entirety by the full text of the form of CVR Agreement, which is filed as an exhibit to the registration statement of which this proxy statement/prospectus forms part.

Material U.S. Federal Income Tax Considerations of the CVRs to Holders of Neoleukin Common Stock

The following discussion is a summary of U.S. federal income tax considerations relating to the receipt of the CVRs by Neoleukin stockholders pursuant to the Contingent Value Rights Agreement. This section applies only to persons that hold their Neoleukin common stock as capital assets for U.S. federal income tax purposes (generally, property held for investment). This discussion is a summary only and does not discuss all aspects of U.S. federal income taxation that may be relevant to holders in light of their particular circumstances or status including:

- brokers, dealers or traders in securities, banks, insurance companies, other financial institutions or mutual funds;
- real estate investment trusts; regulated investment companies; tax-exempt organizations or governmental organizations;
- controlled foreign corporations, passive foreign investment companies, pass-through entities such as partnerships, S corporations, disregarded entities for federal income tax purposes and limited liability companies (and investors therein);
- persons who hold their shares as part of a hedge, wash sale, synthetic security, conversion transaction or other integrated transaction;
- persons that have a functional currency other than the U.S. dollar;
- persons that actually or constructively own five percent or more of Neoleukin voting shares or five percent or more of the total value of all classes of shares of Neoleukin;
- taxpayers that are subject to the mark-to-market accounting rules;
- persons who hold shares of Neoleukin common stock that constitute “qualified small business stock” under Section 1202 of the Code or as “Section 1244 stock” for purposes of Section 1244 of the Code;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to Neoleukin common stock being taken into account in an “applicable financial statement” (as defined in the Code);

- persons that hold securities in Neoleukin as part of a straddle, constructive sale, hedging, conversion or other integrated or similar transaction;
- persons holding Neoleukin common stock who exercise dissenters' rights;
- persons who acquired their shares of Neoleukin common stock pursuant to the exercise of options or otherwise as compensation or through a tax-qualified retirement plan or through the exercise of a warrant or conversion rights under convertible instruments; and
- expatriates or former citizens or long-term residents of the United States.

This discussion is based on the Code, proposed, temporary and final Treasury Regulations promulgated under the Code, and judicial and administrative interpretations thereof, all as of the date hereof. All of the foregoing is subject to change, which change could apply retroactively and could affect the tax considerations described herein. This discussion does not address U.S. federal taxes other than those pertaining to U.S. federal income taxation (such as estate or gift taxes, the alternative minimum tax or the Medicare tax on investment income), nor does it address any aspects of U.S. state or local or non-U.S. taxation.

If any entity or arrangement classified as a partnership for U.S. federal income tax purposes holds Neoleukin common stock, the tax treatment of such partnership and any person treated as a partner of such partnership will generally depend on the status and activities of the partner and the activities of the partnership. If you are a partner of a partnership or other pass-through entity holding Neoleukin common stock, you should consult your tax advisors regarding the tax considerations of the receipt of the CVRs and distributions of Neoleukin common stock pursuant to the CVRs.

In addition, the following discussion does not address the tax considerations of transactions effectuated before, after or at the same time as the receipt of the CVRs, whether or not they are in connection with the receipt of the CVRs, including, without limitation, the merger and the reverse stock split, except as specifically provided below.

The CVRs generally may not be transferred or assigned except for certain permitted transfers; accordingly, this discussion assumes the CVRs are not transferable or assignable and does not address any considerations of transferring, assigning or otherwise disposing of the CVRs or any interest therein. No ruling from the IRS has been or will be requested in connection with the distribution of the CVRs. Neoleukin stockholders should be aware that the IRS could adopt a position contrary to that set forth in this discussion and which could be sustained by a court.

STOCKHOLDERS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSIDERATIONS OF THE RECEIPT OF THE CVRS ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

As used herein, a "U.S. holder" is a beneficial owner of Neoleukin common stock that is for U.S. federal income tax purposes:

- an individual citizen or resident of the United States;
- corporation (or other entity that is treated as a corporation for U.S. federal income tax purposes) that is created or organized (or treated as created or organized) in or under the laws of the United States or any state thereof or the District of Columbia or otherwise treated as a U.S. tax resident for U.S. federal income tax purposes;
- an estate whose income is subject to U.S. federal income tax regardless of its source; or

- a trust if (1) a U.S. court can exercise primary supervision over the administration of such trust and one or more "United States persons" (within the meaning of Section 7701(a)(30) of the Code) have the authority to control all substantial decisions of the trust or (2) it has a valid election in place to be treated as a United States person.

If an entity treated as a partnership for U.S. federal income tax purposes holds Neoleukin common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding Neoleukin common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax considerations to them.

In addition, the following discussion does not address the tax considerations of the CVRs under state, local and foreign tax laws. Furthermore, the following discussion does not address any tax considerations of transactions effectuated before, after or at the same time as the distribution of the CVRs (except, to the limited extent discussed below, the reverse stock split), whether or not they are in connection with the distribution of the CVRs. The CVRs generally may not be transferred or assigned except for certain permitted transfers; accordingly, this discussion assumes the CVRs are not transferable or assignable and does not address any considerations of transferring, assigning or otherwise disposing of the CVRs or any interest therein.

INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSIDERATIONS OF THE CVRS ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Material U.S. Federal Income Tax Considerations for U.S. Holders

a. Tax Treatment of the CVRs and the Proposed Reverse Stock Split

Although the matter is not free from doubt, Neoleukin intends to treat the issuance of the CVRs (together with any payments on the CVRs) and the proposed reverse stock split as separate transactions for U.S. federal income tax purposes, and the following discussion (except as discussed below under "*—Alternative Treatment of the CVRs and the Reverse Stock Split as a Single Recapitalization*") assumes this treatment will be respected. The IRS could challenge this position, however. Neoleukin urges you to consult your tax advisor with respect to whether the issuance of the CVRs (and any payments on the CVRs), on the one hand, and the proposed reverse stock split, on the other, constitute separate transactions.

b. Tax Treatment of the CVRs

There is no authority directly on point addressing whether contingent value rights with characteristics similar to the CVRs should be treated for federal income tax purposes as a distribution of property with respect to its stock, an "open transaction," or in some other manner, and such questions are inherently factual in nature. Accordingly, holders are urged to consult with their tax advisors regarding this issue.

However, based on the specific characteristics of the CVRs, and unless otherwise required by a change in law after the date of the CVR Agreement, Neoleukin intends to take the position that the fair market value of the CVRs cannot be reasonably ascertained on the date of the issuance of the CVRs, the CVR Distribution Date, and, accordingly, the issuance of the CVRs constitutes an "open transaction." Unless otherwise required by a change in law or the good-faith resolution of a tax controversy, Neoleukin will not report the issuance of the CVRs as a current distribution of property with respect to its stock and will instead report each future cash payment (if any) on the CVRs as a distribution by Neoleukin for U.S. federal income tax purposes, with each such payment being reported as a dividend to the extent of Neoleukin's current or accumulated earnings and profits in the year in which such payment is made.

If Neoleukin's intended reporting position is correct, a U.S. holder would not generally recognize income in respect of the CVRs on the CVR Distribution Date and would take no tax basis in the CVRs. Any future cash payments would constitute a dividend to the extent of Neoleukin's current or accumulated earnings and profits (as determined for U.S. federal income tax purposes) in the taxable year of such payment, then as a non-taxable return of capital to the extent of such holder's basis in its Neoleukin common stock, and finally as capital gain from the sale or exchange of Neoleukin common stock. Dividends received by individual U.S. holders are eligible for reduced rates of taxation applicable to long-term capital gains, provided certain holding period requirements are met.

However, the IRS could instead assert that the issuance of the CVRs should be treated as a "closed transaction." Under "closed transaction" treatment, a U.S. holder would be treated as receiving a distribution equal to the fair market value (determined on the CVR Distribution Date) of the CVRs issued to such U.S. holder on the CVR Distribution Date. The amount of this distribution generally would be treated first as a taxable dividend to the extent of the U.S. holder's pro rata share of Neoleukin's current or accumulated earnings and profits (as determined for U.S. federal income tax purposes), then as a non-taxable return of capital to the extent of the U.S. holder's basis in its Neoleukin common stock, and finally as capital gain from the sale or exchange of Neoleukin common stock. A U.S. holder's tax basis in the CVRs received would equal the fair market value of the CVRs on the CVR Distribution Date and the holding period of the CVRs received would begin on the day following the CVR Distribution Date. Although not free from doubt, a future cash payment under a CVR would likely be treated as a non-taxable return of a U.S. holder's adjusted tax basis in the CVR to the extent thereof, although the timing of the recovery of a U.S. holder's tax basis is unclear. A payment in excess of such amount may be treated as a payment with respect to a sale of a capital asset, ordinary income or dividends. Additionally, it is possible that a portion of future cash payments would constitute imputed interest and taxed as such. A U.S. holder might recognize loss, which might be a capital loss and could be a long-term capital loss, upon the expiration of the CVR to the extent cash payments ultimately received pursuant to such CVR were less than the U.S. holder's adjusted tax basis in the CVRs, but whether and when such a loss would be recognized is unclear. The deductibility of capital losses is subject to limitations.

It is possible, although Neoleukin believes unlikely, that the issuance of the CVRs could be treated as one or more "debt instruments" or as a distribution of equity.

U.S. holders are urged to consult their tax advisors with respect to the proper characterization of the CVRs and the tax considerations thereof (including any future cash payments made under the CVRs).

c. Alternative Treatment of the CVRs and the Proposed Reverse Stock Split as a Single Recapitalization

Notwithstanding Neoleukin's position that the CVRs and the proposed reverse stock split are appropriately treated as separate transactions, it is possible that the IRS or a court could determine that the issuance of the CVRs (and/or any payments thereon) and the proposed reverse stock split constitute a single "recapitalization" for U.S. federal income tax purposes with the CVRs constituting taxable "boot" received in such recapitalization exchange. In such case, the tax considerations of the CVRs and the proposed reverse stock split would differ from those described above, including the timing and character of income, which would depend in part on many of the same considerations described above.

Due to the substantial uncertainty regarding the tax treatment of the CVRs (and any future cash payments under the CVRs) and the possible integration of the CVRs and the proposed reverse stock split, U.S. holders are urged to consult their tax advisors concerning the recognition of gain, income and/or loss in connection with the CVRs and the proposed reverse stock split and the applicability of information reporting and backup withholding.

Material U.S. Federal Income Tax Considerations for Non-U.S. Holders

The discussion below applies to beneficial owners of Neoleukin common stock that are not U.S. holders or entities treated as partnerships for U.S. federal income tax purposes (such beneficial owners, Non-U.S. holders).

As discussed above under "*—Tax Treatment of the CVRs and the Proposed Reverse Stock Split*" and "*—Tax Treatment of the CVRs*," Neoleukin intends to take the position that any future cash payments on the CVRs are distributions with respect to Neoleukin common stock and that such distributions constitute dividends to the extent payable out of Neoleukin's current or accumulated earnings and profits (as determined under U.S. federal income tax principles) in the taxable year of such future cash payment. Assuming such position is correct, amounts not treated as dividends for U.S. federal income tax purposes may constitute a return of capital and first be applied against and reduce a Non-U.S. holder's adjusted tax basis in its common stock, but not below zero, and any excess may be treated as capital gain with respect to such Non-U.S. holder's Neoleukin common stock. However, this intended position is subject to substantial uncertainty, and, accordingly, Non-U.S. holders are urged to consult their tax advisors with respect to the proper characterization of the CVRs and the tax considerations thereof (including any future cash payments made under the CVRs).

In light of Neoleukin's intended reporting position, it is expected that Non-U.S. holders would generally be subject to U.S. federal withholding tax at a rate of 30% on any future cash payments on the CVRs. Such withholding may be reduced or eliminated if the Non-U.S. holder properly certifies qualification for a lower withholding rate under an applicable income tax treaty or an exemption from withholding as a result of dividends on the Neoleukin common stock being effectively connected with the Non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. holder maintains a permanent establishment in the United States to which such dividends are attributable). A Non-U.S. holder that is a corporation also could be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on income attributable to the CVRs.

Due to the legal and factual uncertainty regarding the tax treatment of the CVRs (and any future cash payments under the CVRs), Non-U.S. holders are urged to consult their tax advisors concerning the recognition of gain, income and/or loss or withholding that may apply in connection with the CVRs. Non-U.S. holders should consult their tax advisors regarding the applicability of information reporting and backup withholding and/or withholding under the Foreign Account Tax Compliance Act with respect to the CVRs and any future cash payments under the CVRs, particularly in light of the uncertainty under U.S. federal income tax law relating to the tax treatment of the CVRs.

PLEASE CONSULT YOUR TAX ADVISOR WITH RESPECT TO THE PROPER CHARACTERIZATION OF THE RECEIPT OF THE CVRs.

NEUROGENE EXECUTIVE COMPENSATION

Following completion of the merger, certain executive officers of Neurogene will become executive officers of the combined company. This section sets forth historical compensation for the following executive officers of Neurogene as of December 31, 2022, which are referred to herein as the "Neurogene Named Executive Officers" or "Neurogene NEOs," each of whom is expected to become an executive officer of the combined company:

- Rachel McMinn, Founder and Chief Executive Officer;
- Christine Mikail, President and Chief Financial Officer; and
- Stuart Cobb, Chief Scientific Officer.

Summary Compensation Table

The following table sets forth information regarding the compensation earned by or granted to the Neurogene NEOs during the fiscal years ended December 31, 2022 and 2021.

Name and Principal Position	Year	Salary ($)	Bonus ($)(1)	Option Awards ($)(2)	Total ($)
Rachel McMinn	2022	447,741	205,961	—	653,702
Founder and Chief Executive Officer	2021	426,420	197,859	7,812	632,091
Christine Mikail	2022	436,160	175,554	—	611,714
President and Chief Financial Officer	2021	417,778	169,618	10,872	598,268
Stuart Cobb	2022	341,256	117,131	—	458,987
Chief Scientific Officer	2021	324,996	113,100	220,768	658,864

(1) Amounts in this column represent annual discretionary bonuses for services performed during the fiscal year that were paid early in the following fiscal year. For more information regarding the annual bonuses, see "*—Narrative Disclosure to Summary Compensation Table—Annual Bonuses*" below.

(2) Amounts in this column represent the aggregate grant date fair value, computed in accordance with FASB Accounting Standards Codification Topic 718, of stock options granted to the Neurogene NEOs on September 23, 2021. For more information regarding the assumptions used in these calculations, see Note 12 to Neurogene's audited financial statements included in this proxy statement/prospectus.

Narrative Disclosure to Summary Compensation Table

Offer Letters

Rachel McMinn

Dr. McMinn executed an offer letter with Neurogene on January 10, 2019, which sets forth conditions of Dr. McMinn's at-will employment as Neurogene's President and Chief Executive Officer. Dr. McMinn also executed Neurogene's standard form of Proprietary Information and Inventions Assignment Agreement. Dr. McMinn's offer letter entitles her to an initial base salary at the monthly rate of $33,333, and she is eligible to receive an annual bonus of 40% of her annual base salary, payable at the discretion of the Neurogene board of directors. In addition, Dr. McMinn's offer letter provides that Dr. McMinn will be able to participate in any current and future employee equity programs, and that any stock award will be subject to the terms of Neurogene's 2018 Plan and a restricted stock agreement to be entered into between Dr. McMinn and Neurogene. Effective January 1, 2022, Dr. McMinn's base salary was increased to $447,741. The details of Dr. McMinn's compensation for the years ended December 31, 2022 and 2021 are included in "*Summary Compensation Table*" above.

Christine Mikail

Ms. Mikail executed an offer letter with Neurogene, effective as September 3, 2019, which sets forth conditions of Ms. Mikail's at-will employment as Neurogene's President and Chief Financial Officer. Ms. Mikail

also executed Neurogene's standard form of Proprietary Information and Inventions Assignment Agreement. Ms. Mikail's offer letter entitles her to an initial annual base of $390,000, and she is eligible to receive an annual bonus of 35% of her annual base salary, payable at the discretion of the Neurogene board of directors. In addition, Ms. Mikail's offer letter provides that following the commencement of Ms. Mikail's employment, Neurogene will recommend to the Neurogene board of directors that Ms. Mikail be granted an option to purchase 550,000 shares of Neurogene common stock subject to the terms of the Neurogene 2018 Plan and a stock option agreement to be entered into between Ms. Mikail and Neurogene, and such option award was approved by the Neurogene board of directors on September 5, 2019 and granted on October 1, 2019. The offer letter anticipates that, subject to Ms. Mikail's continued employment with Neurogene, the option vests as to 25% of the award on the first anniversary of the applicable vesting commencement date and then in equal monthly installments on the last day of each month over the following 36 months. Effective January 1, 2022, Ms. Mikail's base salary was increased to $436,160. The details of Ms. Mikail's compensation for the years ended December 31, 2022 and 2021 are included in "*—2022 Summary Compensation Table*" above.

Ms. Mikail's offer letter also provides for severance benefits in connection with certain terminations of employment, as described under "*—Additional Narrative Disclosure—Potential Payments Upon Termination or Change in Control*" below.

Base Salary

Base salaries are intended to provide a level of compensation sufficient to attract and retain an effective management team, when considered in combination with the other components of Neurogene's executive compensation program. The relative levels of base salary for the Neurogene NEOs are designed to reflect each executive officer's scope of responsibility and accountability. Effective January 1, 2022, Dr. McMinn's base salary was increased by $21,321 to $447,741, Ms. Mikail's base salary was increased by $18,382 to $436,160 and Mr. Cobb's base salary was increased by $16,260 to $341,256. The table below sets forth the base salary as of December 31, 2022 for each Neurogene NEO.

Name	Base Salary (as of 12/31/2022)
Rachel McMinn	$ 447,741
Christine Mikail	$ 436,160
Stuart Cobb	$ 341,256

Annual Bonuses

Neurogene's annual incentive program is intended to reward its named executive officers for performance during a fiscal year. From time to time, Neurogene's compensation committee or the Neurogene board of directors, as applicable, in their discretion may approve annual incentives for Neurogene's named executive officers based on individual performance, company performance, or as otherwise determined appropriate. Each of Neurogene's named executive officers was eligible to receive a target bonus at the discretion of the Neurogene board with respect to 2022 (as a percentage of base salary) based upon their performance. The target annual bonus for Dr. McMinn, Ms. Mikail and Mr. Cobb for the fiscal year ended December 31, 2022 were 40%, 35% and 30% of their respective annual base salary.

Name	Target Bonus (% of Salary)	2022 Annual Bonus
Rachel McMinn	40%	$ 179,096
Christine Mikail	35%	$ 152,656
Stuart Cobb	30%	$ 102,377

Equity Awards

Neurogene has historically provided long-term incentive compensation to the Neurogene NEOs through grants of stock options to purchase shares of Neurogene common stock under Neurogene's 2018 Plan. In general, stock options vest as to 25% on the first anniversary of the applicable vesting commencement date and then in equal monthly installments on the last day of each month over the following 36 months, subject to the Neurogene NEO's continued employment.

On September 23, 2021, the Neurogene board of directors approved stock option awards to each of the Neurogene NEOs representing the right to purchase the number of shares of Neurogene common stock set forth below with the following vesting commencement dates.

Name	2022 Stock Options	Vesting Commencement Date
Rachel McMinn	10,000	9/23/2021
Christine Mikail	10,000	9/23/2021
Stuart Cobb	203,067	9/23/2021

Outstanding Equity Awards at Fiscal 2022 Year-End

The following table presents information regarding the outstanding stock options under Neurogene's 2018 Plan held by each Neurogene NEO as of December 31, 2022.

	Option Awards				
Name	Vesting Commencement Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date
Rachel McMinn	3/11/2019	56,818	14,205(1)	0.484	3/10/2024
	3/11/2019	18,182	4,546(1)	0.484	3/10/2024
	10/07/2020	132,954	112,501(1)	0.891	10/15/2025
	9/23/2021	3,125	6,875(1)	1.914	9/22/2026
Christine Mikail	10/01/2019	275,000	114,584(1)	0.44	9/30/2029
	10/07/2020	270,833	229,167(1)	0.81	10/15/2030
	9/23/2021	3,125	6,875(1)	1.74	9/22/2031
Stuart Cobb	3/11/2019	134,062	44,688(2)	0.44	3/10/2029
	10/07/2020	162,500	137,500(1)	0.81	10/15/2030
	9/23/2021	63,458	139,609(1)	1.74	9/22/2031

(1) These stock options vest as to 25% on the one-year anniversary of the vesting commencement date and in 36 equal monthly installments thereafter.

(2) These stock options vest as to 25% on the one-year anniversary of the vesting commencement date and in three equal annual installments thereafter.

Additional Narrative Disclosure

Retirement Benefits

Neurogene does not maintain, and no Neurogene NEO is eligible to participate in, any defined benefit pension plan or nonqualified deferred compensation plan. Each Neurogene NEO is eligible to participate in a multiemployer tax-qualified 401(k) savings plan, which allows eligible participants to defer a portion of their compensation, within the limits prescribed by the Code and the applicable limits under the 401(k) plan, on a pre-tax or after-tax (Roth) basis, through contributions to the 401(k) plan. Pursuant to the terms of such 401(k) plan, Neurogene matches 100% for the first three percent of employee contributions and 50% of the next two percent of employee contributions.

Potential Payments Upon Termination or Change in Control

Rachel McMinn

Pursuant to the terms set forth in an amendment to Dr. McMinn's Restricted Stock Purchase Agreement, in the event that Dr. McMinn is terminated by Neurogene other than for "Cause" or that Dr. McMinn resigns for "Good Reason" within 60 days prior to, or within 12 months following, a "Change in Control," then the vesting schedule of her stock options will be accelerated so that all unvested stock options will immediately become vested on such date.

For purposes of Dr. McMinn's vesting acceleration:

- "Cause" generally means Dr. McMinn's: (i) repeated and willful failure after written notice to perform her reasonably assigned duties for Neurogene, (ii) engagement in dishonesty, gross negligence or misconduct or (iii) conviction of, or the entry of a pleading of guilty or nolo contendere of, any crime involving moral turpitude or any felony.
- "Change in Control" generally means (i) a merger or consolidation in which Neurogene or its subsidiary is a constituent party and Neurogene issues shares of Neurogene capital stock pursuant to such merger or consolidation, or (ii) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by Neurogene of all or substantially all the assets of Neurogene.
- "Good Reason" generally means (i) where Dr. McMinn and Neurogene mutually agree in writing that Good Reason exists, (ii) a material diminution in annual base salary (excluding across the board reductions), (iii) any material diminution in title, authority, responsibilities or lines of reporting, or (iv) a required geographic relocation by more than 50 miles, in each case, subject to standard notice and cure periods.

Christine Mikail

Pursuant to the terms set forth in Ms. Mikail's offer letter, in the event that Ms. Mikail is terminated by Neurogene other than for "Cause" or that Ms. Mikail resigns for "Good Reason," then Ms. Mikail will be entitled to the following severance benefits: (i) a lump sum severance payment equal to six months of Ms. Mikail's base salary, (ii) any unpaid annual bonus amount earned by Ms. Mikail with respect to the calendar year ended prior to such termination, and (iii) Neurogene-subsidized COBRA continuation premiums for up to six months. If such termination is within 12 months following a Change in Control, then the lump sum severance payment that Ms. Mikail is entitled to will equal 12 months of Ms. Mikail's base salary and the vesting of her stock options will be accelerated so that all unvested stock options will immediately become vested on the date that is 60 days after such termination. All severance benefits are conditioned on Ms. Mikail's execution and non-revocation of a release of claims in favor of Neurogene.

For purposes of Ms. Mikail's offer letter:

- "Cause" generally means Ms. Mikail's: (i) indictment or conviction, or entry of a pleading of guilty or no contest, with respect to a felony or another crime involving fraud, dishonesty or moral turpitude, (ii) material misconduct or gross negligence in the performance of assigned duties to Neurogene, (iii) material failure or refusal to (A) follow policies or lawful directives established by the Neurogene Chief Executive Officer or the Neurogene board of directors or (B) perform duties or obligations, subject to a 30-day cure period, (iv) act of fraud, embezzlement, theft or dishonesty in the course of employment with Neurogene, (v) material breach of Ms. Mikail's offer letter, Neurogene's policies, the Employee Proprietary Information and Inventions Assignment Agreement or any other agreement with Neurogene, subject to a 30-day cure period or (vi) failure to comply in any material respect with applicable laws with respect to the operation of the business of Neurogene, subject to a 30-day cure period.

- "Change in Control" generally means (i) a merger or consolidation of Neurogene with or into any other corporation or other entity or person, (ii) a sale, lease, exchange, or other transfer in one transaction or a series of related transactions of all or substantially all Neurogene's assets to an unrelated person or entity, or (iii) any other transaction, including the sale by Neurogene of shares of Neurogene capital stock or a transfer of existing shares of Neurogene capital stock which results in a third party that is not an affiliate of Neurogene or its stockholders (or a group of third of third parties that are not affiliates of Neurogene or its stockholders) immediately prior to such transaction acquires or holds Neurogene capital stock representing a majority of Neurogene's outstanding voting power immediately following such transaction.
- "Good Reason" generally means (i) a material diminution in annual base salary (excluding across the board reductions), (ii) any material diminution in title, authority, responsibilities or lines of reporting, or (iii) a required geographic relocation by more than 50 miles, in each case, subject to standard notice and cure periods.

Summary Description of Neurogene's 2018 Plan

The following is a summary of the principal provisions of Neurogene's 2018 Plan. Neurogene's 2018 Plan was adopted to advance the interests of Neurogene's stockholders by enhancing Neurogene's ability to attract, retain and motivate people who make (or are expected to make) important contributions to Neurogene by providing such persons with equity ownership opportunities and thereby better aligning the interests of such persons with those of Neurogene's stockholders.

Eligibility. All of Neurogene's employees, officers, directors, consultants and advisors are eligible to be granted stock options, restricted stock, RSUs and other stock-based awards. Approximately 77 current employees (including the Neurogene NEOs) and 2 current non-employee members of the Neurogene board of directors participate in Neurogene's 2018 Plan.

Administration. The Neurogene board of directors has the authority to administer Neurogene's 2018 Plan with respect to awards made under Neurogene's 2018 Plan. However, it may at any time appoint a secondary committee of one or more directors to have separate but concurrent authority to make awards under Neurogene's 2018 Plan. The Neurogene board of directors may also delegate to one or more officers of Neurogene the power to grant awards under Neurogene's 2018 Plan. The Neurogene board of directors or any other committee or person who are delegated any such authority are referred to herein as the "plan administrator."

The plan administrator has the authority to determine which eligible individuals are granted awards, to grant awards and to set all of the terms and conditions of awards.

Stock Available for Awards. Neurogene's 2018 Plan reserves 11,788,595 shares of Neurogene common stock for issuance pursuant to Awards (as defined below in Proposal 5) thereunder. If any award expires, lapses or is terminated, surrendered or canceled without exercise or is forfeited, then the shares of Neurogene common stock covered by such award will be available for the grant of future awards under Neurogene's 2018 Plan. In addition, shares of Neurogene common stock delivered or tendered to Neurogene by a participant to satisfy the applicable exercise or purchase price or applicable tax withholding obligations will be available for the grant of future awards under Neurogene's 2018 Plan. As of June 30, 2023, 2,022,031 shares of Neurogene common stock remained available for issuance.

Types of Awards. The following types of awards may be granted under Neurogene's 2018 Plan: stock options, restricted stock, RSUs and other stock-based awards. The principal features of each type of award are described below.

- *Stock Options*. The plan administrator may grant stock options which qualify as incentive stock options under the Code or non-qualified stock options. Each stock option will have an exercise price per share

determined by the plan administrator, but the exercise price will not be less than 100% of the fair market value of a share of Neurogene common stock on the grant date (or, for incentive stock options granted to a 10% stockholder, the exercise price will not be less than 110% of such fair market value). No stock option will have a term in excess of 10 years (or, for incentive stock options granted to a 10% stockholder, the maximum term is five years). The shares subject to each stock option will generally vest in one or more installments over a specified period of service measured from the grant date or upon the achievement of pre-established performance objectives, as determined by the plan administrator.

- *Restricted Stock; RSUs*. The plan administrator may grant shares of Neurogene common stock under Neurogene's 2018 Plan that are subject to performance or service vesting requirements established by the plan administrator, which is referred to as restricted stock. The plan administrator may also grant RSUs under Neurogene's 2018 Plan, where each RSU entitles the participant to receive a share of Neurogene common stock or cash in lieu thereof following the attainment of performance or service vesting requirements. Unless otherwise determined by the plan administrator, holders of restricted stock will be entitled to cash dividends with respect to their shares of restricted stock, but such dividends will be subject to the same restrictions as the underlying restricted stock. The plan administrator may provide for dividend equivalents with the grant of any RSUs, which may be subject to the same restrictions as the underlying RSUs.
- *Other Stock-Based Awards*. The plan administrator may grant other stock-based awards under Neurogene's 2018 Plan, which may be fully vested shares of Neurogene common stock or any other awards that are valued in whole or in part by reference to, or are otherwise based on, shares of Neurogene common stock or other property.

Transferability. Awards generally may not be sold, assigned, transferred, pledged or otherwise encumbered, except by will or the laws of descent and distribution. During the life of a participant, stock options may only be exercisable by the participant.

Change in Control. In the event of a change in control, the Neurogene board of directors may take any of the following actions with respect to awards: (i) provide for the cancelation of awards in exchange for cash or property, (ii) provide that outstanding awards will become exercisable or vested, (iii) provide for the assumption or substitution of such awards by the succeeding or surviving company, (iv) make adjustments to the number and type of shares subject to, and the terms and conditions of, outstanding awards, (v) replace the award with other rights or property, (vi) provide for the termination of unexercised awards, or (vii) any combination thereof.

Amendment and Termination. The Neurogene board of directors may amend or modify Neurogene's 2018 Plan at any time. No awards shall be granted under Neurogene's 2018 Plan after July 3, 2028.

NEUROGENE DIRECTOR COMPENSATION

Mr. Baffi and Mr. Stankovic are the only non-employee members of the Neurogene board of directors who received compensation for service on the Neurogene board of directors during fiscal 2022. Mr. Baffi and Mr. Stankovic each receive cash retainers of $30,000 per year, payable quarterly in arrears.

2022 Director Compensation Table

The following table sets forth information for the year ended December 31, 2022 regarding the compensation awarded to or earned by certain non-employee members of the Neurogene board of directors. Dr. McMinn, Neurogene's Founder and Chief Executive Officer, did not receive any additional compensation for her service as a member of the Neurogene board of directors. Please see "*Neurogene Executive Compensation—Summary Compensation Table*" above for the compensation earned by or paid to Dr. McMinn in fiscal 2022.

Name	Fees Earned or Paid in Cash ($)
Srdjan Stankovic	30,000
Robert Baffi	30,000
Steve Biggar	—
Cory Freedland	—
Caroline Stout	—

MATTERS BEING SUBMITTED TO A VOTE OF NEOLEUKIN STOCKHOLDERS

PROPOSAL NO. 1—THE NASDAQ STOCK ISSUANCE PROPOSAL

General

At the Neoleukin special meeting, Neoleukin stockholders will be asked to approve (i) the issuance of shares of Neoleukin common stock and pre-funded warrants, including shares of common stock to be issued on exercise of such warrants, to the stockholders of Neurogene pursuant to the Merger Agreement, which shares of Neoleukin common stock and pre-funded warrants will represent more than 20% of the shares of Neoleukin common stock outstanding immediately prior to the merger and (ii) the change of control of Neoleukin resulting from the merger, pursuant to Nasdaq Listing Rules 5635(a) and 5635(b), respectively.

Immediately following the merger, it is expected that the former Neurogene securityholders, including the holders of shares of Neurogene common stock and Neurogene pre-funded warrants issued in the Neurogene pre-closing financing, will own approximately 84% of the capital stock of Neoleukin and the Neoleukin securityholders as of immediately prior to the merger will own approximately 16% of the capital stock of Neoleukin calculated using the TSM and, subject to certain assumptions, including, but not limited to, Neoleukin's net cash at closing being the Target Parent Net Cash amount and Neurogene receiving aggregate proceeds of $95.0 million in the Neurogene pre-closing financing.

The terms of, reasons for and other aspects of the Merger Agreement, the merger and the issuance of Neoleukin common stock in the merger are described in detail in the other sections in this proxy statement/prospectus. A copy of the Merger Agreement is attached as *Annex A* to this proxy statement/prospectus.

Reasons for the Proposal

Under Nasdaq Listing Rule 5635(a)(1), a company listed on Nasdaq is required to obtain stockholder approval prior to the issuance of common stock, among other things, in connection with the acquisition of another company's stock, if the number of shares of common stock to be issued is in excess of 20% of the number of shares of common stock then outstanding. The potential issuance of the shares of Neoleukin common stock and shares to be issued on exercise of Neoleukin pre-funded warrants that may be issued in the merger exceeds the 20% under the Nasdaq Listing Rules and is expected to represent approximately 84% of Neoleukin's common stock immediately following the merger, calculated using the TSM. Accordingly, in order to ensure compliance with Nasdaq Listing Rule 5635(a)(1), Neoleukin must obtain the approval of Neoleukin stockholders for the issuance of these shares of common stock in the merger.

Under Nasdaq Listing Rule 5635(b), a company listed on Nasdaq is required to obtain stockholder approval prior to an issuance of stock that will result in a "change of control" of the listed company. It is expected that Nasdaq will determine that the merger constitutes a "change of control" of the listed company. Accordingly, in order to ensure compliance with Nasdaq Listing Rule 5635(b), Neoleukin must obtain the approval of Neoleukin stockholders of the change of control resulting from the merger.

Required Vote

The affirmative vote of a majority of the votes properly cast by the holders of Neoleukin common stock entitled to vote at the Neoleukin special meeting is required to approve the Nasdaq Stock Issuance Proposal. Abstentions and broker non-votes, if any, will have no effect on the Nasdaq Stock Issuance Proposal.

The merger is conditioned upon the approval of the Nasdaq Stock Issuance Proposal (or the waiver thereof in accordance with the terms of the Merger Agreement). Notwithstanding the approval of the Nasdaq Stock Issuance Proposal, if the merger is not consummated for any reason, the actions contemplated by the Nasdaq Stock Issuance Proposal will not be effected.

Certain of Neoleukin and Neurogene's stockholders have agreed to vote any shares of common stock owned by them in favor of the Nasdaq Stock Issuance Proposal. See "*Agreements Related to the Merger—Support Agreements*" for more information.

Unless otherwise instructed, it is the intention of the persons named in the accompanying proxy card to vote shares represented by properly executed proxy cards "**FOR**" the approval of the Nasdaq Stock Issuance Proposal.

NEOLEUKIN'S BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE NASDAQ STOCK ISSUANCE PROPOSAL.

PROPOSAL NO. 2—THE REVERSE STOCK SPLIT PROPOSAL

General

At the Neoleukin special meeting, Neoleukin stockholders will be asked to approve an amendment to Neoleukin's charter to effect a reverse stock split of Neoleukin's issued and outstanding common stock at a ratio in the range between 1: to 1: , inclusive. The final ratio and effectiveness of such amendment, or in the alternative, the abandonment of such amendment will be mutually agreed by the Neoleukin board of directors and the Neurogene board of directors prior to the effective time or, if the Nasdaq Stock Issuance Proposal is not approved by Neoleukin's stockholders, determined solely by the Neoleukin board of directors. Upon the effectiveness of such amendment to effect the reverse stock split (the "reverse stock split effective time"), the issued and outstanding shares of Neoleukin common stock immediately prior to the reverse stock split effective time will automatically without further action on the part of Neoleukin or Neoleukin's stockholders be reclassified and combined into a smaller number of shares such that a Neoleukin stockholder will own one new share of Neoleukin common stock for every shares to shares of issued Neoleukin common stock held by such stockholder immediately prior to the reverse stock split effective time, dependent upon the final ratio of the reverse stock split and subject to the treatment of fractional share interests as described below. Based upon the reverse stock split ratio as mutually agreed by the Neoleukin board of directors and Neurogene board of directors, proportionate adjustments will be made to the per share exercise price, and/or the number of shares issuable upon the exercise or vesting of all then outstanding Neoleukin existing pre-funded warrants, stock options and RSUs, which will result in a proportional decrease in the number of shares of Neoleukin common stock reserved for issuance upon exercise or vesting, of such Neoleukin existing pre-funded warrants stock options and RSUs, and, in the case of stock options, a proportional increase in the exercise price of all such stock options.

The proposed form of certificate of amendment to Neoleukin's charter, a copy of which is attached as *Annex B* to this proxy statement/prospectus, will affect the reverse stock split but, unless Proposal No. 4, the Authorized Share Increase Proposal, is also approved, ***will not*** change the number of authorized shares of Neoleukin common stock or Neoleukin preferred stock, or the par value of Neoleukin common stock or Neoleukin preferred stock.

Reasons for the Proposal

The Neoleukin board of directors unanimously approved the proposal approving the amendment to Neoleukin's charter effecting the reverse stock split for the following reasons:

- the Neoleukin board of directors believes effecting the reverse stock split will result in an increase in the minimum bid price of Neoleukin's common stock and reduce the risk of a delisting of Neoleukin common stock from Nasdaq in the future;
- the Neoleukin board of directors believes a higher stock price may help generate investor interest in Neoleukin and ultimately the combined company and help Neoleukin and the combined company attract and retain employees;
- the Neoleukin board of directors believes a higher stock price may increase trading volume in Neoleukin common stock and facilitate future financings by the combined company;
- the Neoleukin board of directors believes that the resulting increase in the proportion of authorized and unissued shares available for future issuance relative to those which are issued will facilitate the issuance of shares to the stockholders of Neurogene pursuant to the Merger Agreement, as described in the Nasdaq Stock Issuance Proposal, and ultimately the consummation of the merger; and
- the Neoleukin board of directors believes that a range of reverse stock split ratios provides it with the most flexibility to achieve the desired results of the reverse stock split.

Requirements for Listing on Nasdaq

Neoleukin common stock is currently listed on The Nasdaq Capital Market under the symbol "NLTX." Neoleukin intends to file an initial listing application pursuant to the terms of the Merger Agreement for the combined company to list the securities of the combined company on Nasdaq.

According to the Nasdaq rules, an issuer must, in a case such as this, apply for initial inclusion following a transaction whereby the issuer combines with a non-Nasdaq entity, resulting in a change of control of the issuer and potentially allowing the non-Nasdaq entity to obtain a Nasdaq listing. Accordingly, the listing standards of Nasdaq will require Neoleukin to have, among other things, a $4.00 per share minimum bid price for a certain number of trading days preceding the closing of the merger. Therefore, the reverse stock split may be necessary in order to consummate the merger.

In addition, it is a condition to the closing of the merger that the shares of Neoleukin common stock to be issued in the merger pursuant to the Merger Agreement having been approved for listing on Nasdaq.

One of the effects of the reverse stock split will be to effectively increase the proportion of authorized shares which are unissued relative to those which are issued. This could result in Neoleukin's management being able to issue more shares without further stockholder approval. The reverse stock split will not affect the number of authorized shares of Neoleukin capital stock, which will continue to be authorized pursuant to Neoleukin's charter.

Potential Increased Investor Interest

On , 2023, Neoleukin common stock closed at $ per share. An investment in Neoleukin common stock may not appeal to brokerage firms that are reluctant to recommend lower priced securities to their clients. Investors may also be dissuaded from purchasing lower priced stocks because the brokerage commissions, as a percentage of the total transaction, tend to be higher for such stocks. Moreover, the analysts at many brokerage firms do not monitor the trading activity or otherwise provide research coverage of lower priced stocks. Also, the Neoleukin board of directors believes that most investment funds are reluctant to invest in lower priced stocks.

There are risks associated with the reverse stock split, including that the reverse stock split may not result in an increase in the per share price of Neoleukin common stock.

Neoleukin cannot predict whether the reverse stock split will increase the market price for Neoleukin common stock. The history of similar stock split combinations for companies in like circumstances is varied. There is no assurance that:

- the market price per share of Neoleukin common stock after the reverse stock split will rise in proportion to the reduction in the number of shares of Neoleukin common stock outstanding before the reverse stock split;
- the reverse stock split will result in a per share price that will attract brokers and investors who do not trade in lower priced stocks;
- the reverse stock split will result in a per share price that will increase the ability of Neoleukin to attract and retain employees;
- the market price per share will either exceed or remain in excess of the $1.00 minimum bid price as required by Nasdaq for continued listing; or
- the market price per share will achieve and maintain the $4.00 minimum bid price requirement for a sufficient period of time for the combined company's common stock to be approved for listing by Nasdaq.

The market price of Neoleukin common stock will also be based on the performance of Neoleukin, and after the merger, on the performance of the combined company, and other factors, some of which are unrelated to the number of shares outstanding. If the reverse stock split is effected and the market price of Neoleukin common stock declines, the percentage decline as an absolute number and as a percentage of the overall market capitalization of Neoleukin may be greater than would occur in the absence of a reverse stock split. Furthermore, the liquidity of Neoleukin common stock could be adversely affected by the reduced number of shares that would be outstanding after the reverse stock split.

Principal Effects of the Reverse Stock Split

The reverse stock split will be realized simultaneously for all shares of Neoleukin common stock, RSUs, pre-funded warrants and options to purchase shares of Neoleukin common stock outstanding immediately prior to the effective time of the reverse stock split. The reverse stock split will affect all holders of shares of Neoleukin common stock, pre-funded warrants and options to purchase shares of Neoleukin common stock and Neoleukin RSUs outstanding immediately prior to the effective time of the reverse stock split uniformly. Immediately following the reverse stock split, each pre-funded warrant holder, option holder and holder of RSUs will have the right to receive the same percentage of Neoleukin common stock upon exercise of such pre-funded warrant or option, or vesting of such RSU, as such holder had immediately prior to the reverse stock split, and each such stockholder will hold the same percentage of Neoleukin common stock outstanding immediately following the reverse stock split as that stockholder held immediately prior to the reverse stock split, except for immaterial adjustments that may result from the treatment of fractional shares as described below. The reverse stock split will not change the par value of Neoleukin common stock or preferred stock and will not reduce the number of authorized shares of Neoleukin common stock or preferred stock. Neoleukin common stock issued pursuant to the reverse stock split will remain validly issued, fully paid and nonassessable. The reverse stock split will not affect Neoleukin continuing to be subject to the periodic reporting requirements of the Exchange Act.

Procedure for Effecting Reverse Stock Split and Exchange of Stock Certificates

If the Neoleukin stockholders approve the amendments to Neoleukin's charter effecting the reverse stock split, and if the Neoleukin board of directors, in consultation with Neurogene's board of directors (assuming approval of the Nasdaq Stock Issuance Proposal), still believes that a reverse stock split is in the best interests of Neoleukin and its stockholders, Neoleukin will file the certificate of amendment to Neoleukin's charter with the Secretary of State of the State of Delaware at such time as the Neoleukin board of directors, in consultation with Neurogene's board of directors, has determined to be appropriate at a ratio as mutually agreed by the Neoleukin board of directors and the Neurogene board of directors prior to the effective time or, if the Nasdaq Stock Issuance Proposal is not approved by Neoleukin stockholders, determined solely by the Neoleukin board of directors. The Neoleukin board of directors may delay effecting the reverse stock split without resoliciting stockholder approval. Beginning at the reverse stock split effective time, each stock certificate or book entry position representing pre-split shares will be deemed for all corporate purposes to evidence ownership of post-split shares.

Beneficial Owners of Common Stock. Upon the implementation of the reverse stock split, Neoleukin intends to treat shares held by stockholders in "street name" (i.e., through a bank, broker, custodian or other nominee), in the same manner as registered stockholders whose shares are registered in their names. Banks, brokers, custodians or other nominees will be instructed to effect the reverse stock split for their beneficial holders holding Neoleukin common stock in street name. However, these banks, brokers, custodians or other nominees may have different procedures than registered stockholders for processing the reverse stock split and making payment for fractional shares. If a stockholder holds shares of Neoleukin common stock with a bank, broker, custodian or other nominee and has any questions in this regard, stockholders are encouraged to contact their bank, broker, custodian or other nominee.

Registered Holders of Common Stock in Book-Entry Form. Certain of Neoleukin's registered holders of common stock hold some or all of their shares electronically in book-entry form with Neoleukin's transfer agent,

Equiniti Trust Company, LLC. These stockholders do not hold physical stock certificates evidencing their ownership of Neoleukin common stock. However, they are provided with a statement reflecting the number of shares of Neoleukin common stock registered in their accounts. If a stockholder holds registered shares in book-entry form with Neoleukin's transfer agent, no action needs to be taken to receive post-reverse stock split shares or payment in lieu of fractional shares, if applicable. If a stockholder is entitled to post-reverse stock split shares, a transaction statement will automatically be sent to the stockholder's address of record indicating the number of shares of Neoleukin common stock held following the reverse stock split. All currently issued shares of Neoleukin common stock are held in book entry form.

Fractional Shares

No fractional shares will be issued in connection with the reverse stock split. Stockholders of record who otherwise would be entitled to receive fractional shares because they hold a number of pre-split shares not evenly divisible by the number of pre-split shares for which each post-split share is to be reclassified and combined, will be entitled, upon surrender to the exchange agent of certificates representing such shares, to a cash payment in lieu thereof at a price equal to the fraction to which the stockholder would otherwise be entitled multiplied by the closing price of Neoleukin common stock on Nasdaq on the last trading day prior to the reverse stock split effective time (or if such price is not available, the average of the last bid and asked prices of Neoleukin common stock on such day or other price determined by the Neoleukin board of directors), as adjusted in good faith by Neoleukin to account for the final ratio of the reverse stock split. For the foregoing purposes, all shares of Neoleukin common stock held by a holder will be aggregated (thus resulting in no more than one fractional share per holder). The ownership of a fractional interest will not give the holder thereof any voting, dividend or other rights except to receive payment (without interest and subject to applicable withholding taxes) therefor as described herein.

Stockholders should be aware that, under the escheat laws of the various jurisdictions where stockholders reside, where Neoleukin is domiciled and where the funds will be deposited, sums due for fractional interests that are not timely claimed after the effective date of the reverse stock split may be required to be paid to the designated agent for each such jurisdiction, unless correspondence has been received by Neoleukin or the exchange agent concerning ownership of such funds within the time permitted in such jurisdiction. Thereafter, stockholders otherwise entitled to receive such funds will have to seek to obtain them directly from the state to which they were paid.

Potential Anti-Takeover Effect

Although the increased proportion of unissued authorized shares to issued shares could, under certain circumstances, have an anti-takeover effect, for example, by permitting issuances that would dilute the stock ownership of a person seeking to effect a change in the composition of the Neoleukin board of directors or contemplating a tender offer or other transaction for the combination of Neoleukin with another company, the reverse stock split proposal is not being proposed in response to any effort of which Neoleukin is aware to accumulate shares of Neoleukin common stock or obtain control of Neoleukin, other than in connection with the merger, nor is it part of a plan by management to recommend a series of similar amendments to the Neoleukin board of directors and stockholders. For more information, please see the section entitled "*Risk Factors—Risks Related to the Combined Company*" beginning on page 85.

Material U.S. Federal Income Tax Considerations of the Reverse Stock Split

The following discussion is a summary of U.S. federal income tax considerations relating to the reverse stock split that are applicable to U.S. holders (which, for purposes of this discussion, has the same meaning as in "*Agreements Related to the Merger—Material U.S. Federal Income Tax Considerations of the CVRs to Holders of Neoleukin Common Stock*") of Neoleukin common stock. This section applies only to persons that hold their Neoleukin common stock as capital assets for U.S. federal income tax purposes (generally, property held for

investment). This discussion is a summary only and does not discuss all aspects of U.S. federal income taxation that may be relevant to holders in light of their particular circumstances or status including:

- brokers, dealers or traders in securities, banks, insurance companies, other financial institutions or mutual funds;
- real estate investment trusts; regulated investment companies; tax-exempt organizations or governmental organizations;
- controlled foreign corporations, passive foreign investment companies, pass-through entities such as partnerships, S corporations, disregarded entities for federal income tax purposes and limited liability companies (and investors therein);
- persons who hold their shares as part of a hedge, wash sale, synthetic security, conversion transaction or other integrated transaction;
- persons that have a functional currency other than the U.S. dollar;
- persons that actually or constructively own five percent or more of Neoleukin voting shares or five percent or more of the total value of all classes of shares of Neoleukin;
- taxpayers that are subject to the mark-to-market accounting rules;
- persons who hold shares of Neoleukin common stock that constitute “qualified small business stock” under Section 1202 of the Code or as “Section 1244 stock” for purposes of Section 1244 of the Code;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to Neoleukin common stock being taken into account in an “applicable financial statement” (as defined in the Code);
- persons that hold securities in Neoleukin as part of a straddle, constructive sale, hedging, conversion or other integrated or similar transaction;
- persons holding Neoleukin common stock who exercise dissenters’ rights;
- persons who acquired their shares of Neoleukin common stock pursuant to the exercise of options or otherwise as compensation or through a tax-qualified retirement plan or through the exercise of a warrant or conversion rights under convertible instruments; and
- expatriates or former citizens or long-term residents of the United States.

This discussion is based on the Code, proposed, temporary and final Treasury Regulations promulgated under the Code, and judicial and administrative interpretations thereof, all as of the date hereof. All of the foregoing is subject to change, which change could apply retroactively and could affect the tax considerations described herein. This discussion does not address U.S. federal taxes other than those pertaining to U.S. federal income taxation (such as estate or gift taxes, the alternative minimum tax or the Medicare tax on investment income), nor does it address any aspects of U.S. state or local or non-U.S. taxation.

If any entity or arrangement classified as a partnership for U.S. federal income tax purposes holds Neoleukin common stock, the tax treatment of such partnership and any person treated as a partner of such partnership will generally depend on the status and activities of the partner and the activities of the partnership. If you are a partner of a partnership or other pass-through entity holding Neoleukin common stock, you should consult your tax advisors regarding the tax considerations of the reverse stock split.

In addition, the following discussion does not address any tax considerations of transactions effectuated before, after or at the same time as the reverse stock split, whether or not they are in connection with the reverse stock split, except as specifically provided below. No ruling from the IRS has been or will be requested in connection with the reverse stock split. Neoleukin stockholders should be aware that the IRS could adopt a position contrary to that set forth in this discussion and which could be sustained by a court.

STOCKHOLDERS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSIDERATIONS OF THE REVERSE STOCK SPLIT ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Tax Considerations of the Reverse Stock Split

The proposed reverse stock split should constitute a "recapitalization" for U.S. federal income tax purposes pursuant to Section 368(a)(1)(E) of the Code. As a result, a U.S. holder should not recognize gain or loss upon the proposed reverse stock split, except with respect to cash received in lieu of a fractional share of Neoleukin common stock, as discussed below. A U.S. holder's aggregate adjusted tax basis in the shares of Neoleukin common stock received pursuant to the proposed reverse stock split should equal the aggregate adjusted tax basis of the shares of the Neoleukin common stock surrendered (excluding any portion of such basis that is allocated to any fractional share of Neoleukin common stock), and such U.S. holder's holding period in the shares of Neoleukin common stock received should include the holding period in the shares of Neoleukin common stock surrendered. U.S. Treasury Regulations provide detailed rules for allocating the tax basis and holding period of the shares of Neoleukin common stock surrendered to the shares of Neoleukin common stock received in a recapitalization pursuant to the proposed reverse stock split. U.S. holders of shares of Neoleukin common stock acquired on different dates and at different prices should consult their tax advisors regarding the allocation of the tax basis and holding period of such shares.

Cash in Lieu of Fractional Shares

A U.S. holder that receives cash in lieu of a fractional share of Neoleukin common stock pursuant to the proposed reverse stock split should recognize capital gain or loss in an amount equal to the difference between the amount of cash received and the U.S. holder's tax basis in the shares of Neoleukin common stock surrendered that is allocated to such fractional share of Neoleukin common stock. Such capital gain or loss should be long-term capital gain or loss if the U.S. holder's holding period for Neoleukin common stock surrendered exceeded one year at the effective time of the reverse stock split.

Possible Alternative Tax Treatment

As discussed above under "*Agreements Related to the Merger—Material U.S. Federal Income Tax Considerations of the CVRs to Holders of Neoleukin Common Stock—Material U.S. Federal Income Tax Considerations for U.S. Holders—Alternative Treatment of the Receipt of CVRs and the Neoleukin Reverse Stock Split as a Single Recapitalization*," although the matter is not free from doubt, Neoleukin will treat the issuance of the CVRs and the proposed reverse stock split as separate transactions for U.S. federal income tax purposes, and the above discussion assumes that this treatment will be respected. However, it is possible that the IRS or a court could determine that the reverse stock split and the issuance of the CVRs should be treated as a single "recapitalization", in which case the material U.S. federal income tax considerations of the reverse stock split to a U.S. Holder may differ from those discussed above. If the reverse stock split and the receipt of CVRs are treated as a single "recapitalization" for U.S. federal income tax purposes, then a Neoleukin U.S. Holder generally should recognize gain (but not loss) equal to the lesser of (i) the fair market value of the CVRs received (assuming the receipt of CVRs is treated as a distribution of property as described in "*Agreements Related to the Merger—Material U.S. Federal Income Tax Considerations of the CVRs to Holders of Neoleukin Common Stock*", and (ii) the excess (if any) of (A) the sum of (1) the fair market value of the CVRs received and (2) the fair market value of the Neoleukin shares received in the Neoleukin reverse stock split (treating fractional shares as received for this purposes), over (B) the Neoleukin U.S. Holder's adjusted tax basis in the Neoleukin common stock surrendered in the reverse stock split. U.S. Holders should consult their tax advisors regarding the tax considerations of the Neoleukin reverse stock split.

Information Reporting and Backup Withholding

Payments of cash made in lieu of a fractional share of Neoleukin common stock may, under certain circumstances, be subject to information reporting and backup withholding. To avoid backup withholding, each holder of Neoleukin common stock that does not otherwise establish an exemption should furnish its taxpayer identification number and comply with the applicable certification procedures.

Backup withholding is not an additional tax. Any amounts withheld will be allowed as a credit against the holder's U.S. federal income tax liability and may entitle such holder to a refund, provided the required information is timely furnished to the IRS. Holders of Neoleukin common stock should consult their tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption.

Required Vote

The affirmative vote of a majority of the votes properly cast by the holders of Neoleukin common stock entitled to vote at the Neoleukin special meeting is required to approve the Reverse Stock Split Proposal. Abstentions and broker non-votes, if any, will have no effect on the Reverse Stock Split Proposal.

In order to have an adequate number of available shares to effect the merger, stockholders of Neoleukin will need to approve either or both of the Reverse Stock Split Proposal and the Authorized Share Increase Proposal (Proposal No. 4). If the merger is not consummated for any reason, the actions contemplated by the Reverse Stock Split Proposal may still be effected if the Reverse Stock Split Proposal is approved.

Certain of Neoleukin and Neurogene's stockholders have agreed to vote any shares of common stock owned by them in favor of the Reverse Stock Split Proposal. See "*Agreements Related to the Merger—Support Agreements*" for more information.

Unless otherwise instructed, it is the intention of the persons named in the accompanying proxy card to vote shares represented by properly executed proxy cards "**FOR**" the approval of the Reverse Stock Split Proposal.

NEOLEUKIN'S BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE REVERSE STOCK SPLIT PROPOSAL.

PROPOSAL NO. 3—THE OFFICER EXCULPATION PROPOSAL

Summary

Neoleukin is seeking stockholder approval of the amendment to Neoleukin's charter to provide for exculpation from personal liability for certain officers (as defined by the applicable provisions of the DGCL) of Neoleukin for certain claims of breach of the fiduciary duty of care, similar to but more limited than the protections currently available to directors of Neoleukin. Neoleukin refers to this proposed amendment as the "Officer Exculpation Proposal".

After careful consideration, Neoleukin's board of directors has determined that it is advisable and in the best interests of Neoleukin to provide for exculpation for certain Neoleukin officers from personal liability for certain claims of breach of the duty of care, to the fullest extent permitted by Delaware law. This exculpation will not protect officers from liability for breach of the duty of loyalty, acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, or any transaction in which the officer derived an improper personal benefit. Nor would this exculpation shield such officers from liability for claims brought by or in the right of the corporation, such as derivative claims. This general description of the proposed Officer Exculpation Proposal is qualified in its entirety by reference to the text of the proposed amendments to Article VI of Neoleukin's charter included in the proposed certificate of amendment for the Officer Exculpation Proposal attached as *Annex B*. This amendment would retain the existing forum selection clause included in Neoleukin's current charter as well as restating Neoleukin's existing exculpation and indemnification provisions.

Background

Neoleukin is incorporated in the State of Delaware and therefore subject to the DGCL. The DGCL permits Delaware corporations to limit or eliminate directors' personal liability for monetary damages resulting from a breach of the fiduciary duty of care, subject to certain limitations such as prohibiting exculpation for intentional misconduct or knowing violations of the law. These provisions are referred to as "exculpatory provisions" or "exculpatory protections." Similar exculpatory provisions for directors are currently included in the Neoleukin's charter. Effective August 1, 2022, the Delaware legislature amended Section 102(b)(7) of the DGCL to permit Delaware corporations to provide exculpatory protections for officers. This decision was due in part to the recognition that both officers and directors owe fiduciary duties to corporations, and yet only directors were protected by the exculpatory provisions. In addition, Delaware courts experienced an increase in litigation in which plaintiffs attempted to exploit the absence of protection for officers to prolong litigation and extract settlements from defendant corporations.

The affirmative vote of the holders of 66 2/3% of the outstanding shares of Neoleukin capital stock entitled to vote at the Neoleukin special meeting is required to approve the Officer Exculpation Proposal. Neoleukin submitted this proposal at the Neoleukin 2023 annual meeting of stockholders and, while it received significant support, it did not receive the 66 2/3 % vote required for adoption. Because brokers are not expected to be able to cast a vote on this proposal without your instruction, it is important that you vote your shares.

Conditions and Limitations to Exculpation under DGCL Section 102(b)(7)

As adopted, amended Section 102(b)(7) of the DGCL protects officers from personal monetary liability under limited circumstances:

- Exculpation is only available for breaches of the fiduciary duty of care.
- Exculpation is not available for breaches of the fiduciary duty of loyalty (which requires officers to act in good faith for the benefit of the corporation and its stockholders and not for personal gain).
- Exculpation is not available for acts or omissions not in good faith or that involve intentional misconduct or knowing violations of the law. The protections of Section 102(b)(7) are limited to monetary damages only, so that claims against officers for equitable relief are available.

- Exculpation is not available in connection with claims brought by the corporation itself or derivative claims brought by a stockholder on behalf of the corporation.

Under amended Section 102(b)(7) of the DGCL, the only officers of a corporation who are eligible for exculpation are (i) the corporation's president, chief executive officer, chief operating officer, chief financial officer, chief legal officer, controller, treasurer or chief accounting officer, (ii) anyone identified as the corporation's named executive officer in the corporation's public filings with the SEC, or (iii) any other officer of the corporation who has consented to service of process in Delaware by written agreement.

Reasons for the Proposal

Neoleukin's board of directors believes that eliminating personal monetary liability for officers under certain circumstances is reasonable and appropriate because the nature of the role of directors and officers often requires them to make decisions on crucial matters in time-sensitive situations, which can create substantial risk of investigations, claims, actions, suits or proceedings seeking to impose liability on the basis of hindsight, especially in the current litigious environment and regardless of merit. Limiting concern about personal risk would empower both directors and officers to best exercise their business judgment in furtherance of stockholder interests. Neoleukin's board of directors also anticipates that similar exculpation provisions are likely to be adopted by Neoleukin's peers and others with whom Neoleukin competes for executive talent. As a result, officer exculpation provisions may become necessary for Delaware corporations to attract and retain experienced and qualified corporate officers. Further, Delaware corporations that fail to adopt officer exculpation provisions may experience a disproportionate amount of nuisance litigation and disproportionately increased costs in the form of increased director and officer liability insurance premiums, as well as diversion of management attention from the business of the corporation.

A Delaware corporation seeking to extend the benefits of the newly amended Section 102(b) (7) to its corporate officers must amend its certificate of incorporation, as the protections do not apply automatically and must be embedded in the corporation's certificate of incorporation to be effective. Accordingly, the Neoleukin board of directors has determined it advisable and in the best interests of Neoleukin and its stockholders to seek stockholder approval of the Officer Exculpation Proposal.

Effect of the Officer Exculpation Proposal if Approved

The Officer Exculpation Proposal would provide for the elimination of personal monetary liability for certain officers only in connection with direct claims brought by stockholders, subject to the limitations described under the heading "Conditions and Limitations to Exculpation under DGCL Section 102(b)(7)" above. As is the case with directors under Neoleukin's charter, the Officer Exculpation Proposal would not limit the liability of officers for any breach of the duty of loyalty to Neoleukin or Neoleukin's stockholders, any acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law, or any transaction from which the officer derived an improper personal benefit. The affirmative vote of the holders of 66 2/3% of the voting power of all of the outstanding shares of Neoleukin's common stock as of the record date is required for the approval of the Officer Exculpation Proposal. If the Officer Exculpation Proposal is approved by the stockholders at the special meeting, it will become effective upon the filing of the certificate of amendment to Neoleukin's charter with the Secretary of State of the State of Delaware, which is expected to occur shortly following the special meeting. If Neoleukin's stockholders do not approve this Proposal No. 3, the changes described in this section will not be made. The approval of this Proposal No. 3 is not conditioned upon approval of any of the other proposals in these proxy materials that seek authorization to amend the existing Neoleukin's charter.

The Officer Exculpation Proposal is not being proposed in response to any specific resignation, threat of resignation or refusal to serve by any director or officer. This protection has long been afforded to directors, and Neoleukin's board of directors believes that extending similar exculpation to its officers is fair and in the best

interests of Neoleukin and its stockholders. Accordingly, Neoleukin's board of directors has unanimously approved the Officer Exculpation Proposal included in the certificate of amendment to Neoleukin's charter in the form attached hereto as *Annex B*.

Required Vote

The affirmative vote of the holders of at least 66 2/3% of the outstanding shares of Neoleukin capital stock entitled to vote at the Neoleukin special meeting is required to approve the Officer Exculpation Proposal. Abstentions and broker non-votes, if any, will have the effect of a vote "**AGAINST**" the Officer Exculpation Proposal.

The merger is not conditioned upon the approval of the Officer Exculpation Proposal. If the merger is not consummated for any reason, the actions contemplated by the Officer Exculpation Proposal may still be effected if the Officer Exculpation Proposal is approved.

Unless otherwise instructed, it is the intention of the persons named in the accompanying proxy card to vote shares represented by properly executed proxy cards "**FOR**" the approval of the Officer Exculpation Proposal.

NEOLEUKIN'S BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE OFFICER EXCULPATION PROPOSAL.

PROPOSAL NO. 4—THE AUTHORIZED SHARE INCREASE PROPOSAL

General

Neoleukin is seeking stockholder approval for a proposal to adopt an amendment to its amended and restated certificate of incorporation to increase the number of authorized shares of Neoleukin common stock from 100,000,000 shares to shares.

Neoleukin's charter currently authorizes 100,000,000 shares of common stock, par value $0.000001 per share and 5,000,000 shares of preferred stock, par value $0.000001 per share, of which shares of common stock and no shares of preferred stock were outstanding as of , 2023, the record date for the Neoleukin special meeting. The proposed amendment to Neoleukin's charter would not increase or otherwise affect its authorized preferred stock. Neoleukin common stock is all of a single class, with equal voting, distribution, liquidation and other rights. The additional Neoleukin common stock to be authorized by adoption of the amendment would have rights identical to Neoleukin's currently outstanding common stock. Proposal No. 2, if implemented, would not reduce the newly increased authorized share amount.

A copy of the amendment to Neoleukin's charter is attached as *Annex B* to this proxy statement/prospectus. If Neoleukin's stockholders approve this proposal, subject to the discretion of Neoleukin's board of directors, Neoleukin intends to file the amendment to its charter with the Secretary of State of the State of Delaware prior to the effective time. In the event that Neoleukin's board of directors determines to effect the authorized share increase that is the subject of this Proposal No. 4 and the reverse stock split that is the subject of Proposal No. 2, assuming that each proposal is approved by the Neoleukin stockholders, Neoleukin's board of directors would effect the authorized share increase before effecting the reverse stock split.

Reasons for the Proposal

As described in greater detail in Proposal No. 1, Neoleukin will be required to issue shares of its common stock to Neurogene pursuant to the terms of the Merger Agreement. In addition, if Proposal No 5 is approved, Neoleukin will reserve additional shares of its common stock for future issuance under the 2023 Equity Incentive Plan, and if Proposal No. 6 is approved, Neoleukin will reserve additional shares of its common stock for future issuance under the 2023 Employee Stock Purchase Plan.

Neoleukin's board of directors believes that as a result of the foregoing, the number of authorized shares of common stock that would be authorized and unissued and not reserved for issuance will not be an adequate number of shares to assure that there will be sufficient shares available for future issuance under the 2023 Equity Incentive Plan and 2023 Employee Stock Purchase Plan. In addition, there will not be sufficient shares available for issuance in connection with possible future acquisitions, equity and equity-based financings, possible future awards under employee benefit plans and other corporate purposes. Therefore, Neoleukin's board of directors has determined that it is in the best interests of Neoleukin and its stockholders to amend its charter as described herein.

Except for (i) the issuance of shares pursuant to the terms of the Merger Agreement which is the subject of Proposal No. 1 and which is described elsewhere in this proxy statement/prospectus, and (ii) the issuance of shares that may result from the shares available for issuance under the 2023 Equity Incentive Plan, which is the subject of Proposal No. 5, Neoleukin does not currently have any plans, proposals or arrangement to issue any of its authorized but unissued shares of common stock.

Possible Effects of the Amendment

If the amendment to Neoleukin's charter is approved, the additional authorized shares would be available for issuance at the discretion of Neoleukin's board of directors and without further stockholder approval, except

as may be required by law or the rules of Nasdaq on which the Neoleukin common stock is listed. The additional shares of authorized common stock would have the same rights and privileges as the shares of Neoleukin common stock currently issued and outstanding. Holders of Neoleukin common stock have no preemptive rights. The issuance of additional shares of common stock may, among other things, have a dilutive effect on earnings per share and on stockholders' equity and voting rights. Furthermore, future sales of substantial amounts of Neoleukin common stock, or the perception that these sales might occur, could adversely affect the prevailing market price of Neoleukin common stock or limit Neoleukin's ability to raise additional capital. Stockholders should recognize that, as a result of this proposal, they will own a smaller percentage of shares relative to the total authorized shares of the company than they presently own.

Unless otherwise instructed, it is the intention of the persons named in the accompanying proxy card to vote shares represented by properly executed proxy cards "FOR" the approval of this Proposal No. 4.

Required Vote

The affirmative vote of a majority of the votes properly cast by the holders of Neoleukin common stock entitled to vote at the Neoleukin special meeting is required to approve the Authorized Share Increase Proposal. Abstentions and broker non-votes, if any, will have no effect on the Authorized Share Increase Proposal.

In order to have an adequate number of available shares to effect the merger, stockholders of Neoleukin will need to approve either or both of the Reverse Stock Split Proposal (Proposal No. 2) and the Authorized Share Increase Proposal.

Certain of Neoleukin's and Neurogene's stockholders have agreed to vote any shares of common stock owned by them in favor of the Authorized Share Increase Proposal if deemed necessary by Neoleukin and Neurogene. See "*Agreements Related to the Merger—Support Agreements*" for more information.

Unless otherwise instructed, it is the intention of the persons named in the accompanying proxy card to vote shares represented by properly executed proxy cards "**FOR**" the approval of the Authorized Share Increase Proposal.

NEOLEUKIN'S BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE AUTHORIZED SHARE INCREASE PROPOSAL.

PROPOSAL NO. 5—EIP PROPOSAL

General

At the Neoleukin special meeting, Neoleukin stockholders will be asked to approve the Neurogene Inc. 2023 Equity Incentive Plan (the "2023 EIP"), which was approved by the Neoleukin board of directors on , 2023 subject to Neoleukin stockholder approval. Upon stockholder approval of the 2023 EIP, the Neoleukin 2014 Plan shall be frozen and no further awards shall be granted under the Neoleukin 2014 Plan thereafter.

Reasons for the Proposal

The purpose of the 2023 EIP is to promote and closely align the interests of the combined company's employees, officers, non-employee directors, and other service providers and the combined company's stockholders by providing stock-based compensation and other performance-based compensation. The objectives of the 2023 EIP are to attract and retain the best available personnel for positions of substantial responsibility and to motivate participants to optimize the profitability and growth of the combined company through incentives that are consistent with the combined company's goals and that link the personal interests of participants to those of the combined company's stockholders. The 2023 EIP allows for the grant of stock options, stock appreciation rights ("SARs"), restricted stock, restricted stock units ("RSUs"), incentive bonuses and other stock-based awards (collectively referred to as the "Awards").

Best Practices Under the 2023 EIP

The 2023 EIP includes several provisions that reflect corporate governance best practices, including the following:

- **Term and Exercise Price Limits on Stock Options and SARs**: Stock options and SARs granted under the 2023 EIP are subject to a maximum term of 10 years and may not be granted at a discount to the fair market value of combined company common stock on the date of grant. Reload options are not permitted under the 2023 EIP.
- **Limit on Non-Employee Director Compensation**: The 2023 EIP includes an annual limit on equity-based and cash compensation granted to non-employee directors of $750,000 (or $1,000,000 in the director's first year on the board or in any year in which the director serves as Chairman or Lead Director).
- **Clawback Policy**: Awards under the 2023 EIP are subject to any clawback policy that the combined company may adopt in the future.
- **No Automatic Single Trigger Acceleration or Tax Gross-Ups**: In the event of a change in control, the 2023 EIP does not provide for automatic single trigger acceleration of outstanding Awards and instead, so long as Awards are continued or assumed, provides for double trigger acceleration—providing for acceleration only in the event of an involuntary termination following the change in control. In addition, the 2023 EIP does not provide for tax gross-ups on excise taxes resulting from excess parachute payments.
- **No Dividends or Dividend Equivalents on Unearned Performance-Based Awards**: Dividends and dividend equivalents may not be paid on any unearned performance-based award under the 2023 EIP.

Summary of the 2023 EIP

The following description of the 2023 EIP is not intended to be complete and is qualified in its entirety by the complete text of the 2023 EIP, a copy of which is attached as *Annex C* to this proxy statement/prospectus. Neoleukin stockholders and potential investors are urged to read the 2023 EIP in its entirety. Any capitalized terms which are used in this summary description but not defined here or elsewhere in this proxy statement have the meanings assigned to them in the 2023 EIP.

Administration

The 2023 EIP will be administered by the compensation committee of the board of directors of the combined company, or such other committee designated by the combined company's board of directors to administer the 2023 EIP, which Neoleukin refers to herein as the 2023 EIP Administrator. The 2023 EIP Administrator has broad authority, subject to the provisions of the 2023 EIP, to administer and interpret the 2023 EIP and Awards granted thereunder. All decisions and actions of the 2023 EIP Administrator are final and binding. To the maximum extent permissible under applicable law, the combined company compensation committee may also delegate any or all of its authority to one or more subcommittees composed of one or more directors and/or officers of the combined company, provided the delegating resolutions shall specify the total number of shares of combined company common stock such subcommittee may award, and no such subcommittee shall designate any officer or non-employee director of the combined company as a recipient of any Awards.

Stock Subject to the 2023 EIP

The maximum number of shares of combined company common stock that may be issued under the 2023 EIP will not exceed the sum of (i) and (ii) any shares of combined company common stock added pursuant to the 2023 EIP evergreen feature, which provides that the number of shares will automatically increase on January 1 of each year beginning in 2024 and ending with a final increase on January 1, 2033, subject to adjustment upon changes in the capitalization of the combined company, as described below. The annual increase will be in an amount equal to 4% of the total number of shares of combined company common stock outstanding, unless the combined company compensation committee determines that there will be a smaller increase, or no increase, with respect to a particular year. The maximum number of shares of the combined company common stock that may be issued pursuant to the exercise of incentive stock options granted under the 2023 EIP will not exceed . The number of shares reserved for issuance under the 2023 EIP does not give effect to the proposed reverse stock split described in Proposal No. 2 of this proxy statement/prospectus.

Shares of combined company common stock issued under the 2023 EIP may be either authorized and unissued shares or previously issued shares acquired by the combined company. On termination or expiration of an Award under the 2023 EIP, in whole or in part, the number of shares of combined company common stock subject to such Award but not issued thereunder or that are otherwise forfeited back to the combined company will again become available for grant under the 2023 EIP. Additionally, shares retained or withheld in payment of any exercise price, purchase price or tax withholding obligation of an Award and shares subject to Awards that otherwise do not result in the issuance of shares in connection with the payment or settlement of the Award will again become available for grant under the 2023 EIP.

Limits on Non-Employee Director Compensation

Under the 2023 EIP, the aggregate dollar value of all cash and equity-based compensation (based on the grant date fair market value for equity awards, and whether granted under the 2023 EIP or otherwise) to the combined company's non-employee directors for services in such capacity shall not exceed $750,000 during any calendar year. However, during the calendar year in which a non-employee director first joins the combined company's board of directors or during any calendar year in which a non-employee director serves as Chairman or Lead Director, such aggregate limit shall instead be $1,000,000.

Eligibility

Prospective or current members of the board, employees (including executive officers), and other service providers of the combined company and its affiliates are eligible to participate in the 2023 EIP. As of , 2023, there were approximately employees (including executive officers), non-employee directors and consultants who are eligible to be selected to participate in the 2023 EIP.

Types of Awards

Stock Options

All stock options granted under the 2023 EIP will be evidenced by a written agreement with the participant, which provides, among other things, whether the option is intended to be an incentive stock option or a non-qualified stock option, the number of shares subject to the stock option, the exercise price, exercisability (or vesting), the term of the option, which may not generally exceed 10 years (or five years for grants of incentive stock options to 10% holders), and other terms and conditions. The exercise price for any stock option granted may not be less than the fair market value per share of combined company common stock on the grant date (or 110% of such fair market value for grants of incentive stock options to 10% holders). The 2023 EIP Administrator may, without the combined company stockholder approval, reduce the exercise price of a previously awarded stock option, or cancel and re-grant or exchange any such stock option for cash or a new Award with a lower (or no) exercise price. Participants have no voting rights and no rights to receive dividends in respect of stock options until the participant becomes the holder of record of the combined company common stock subject to such stock options.

Stock Appreciation Rights

SARs may be granted alone or in conjunction with all or part of a stock option. Upon exercising a SAR, the participant is entitled to receive the amount by which the fair market value of combined company common stock at the time of exercise exceeds the exercise price of the SAR. All freestanding SARs shall be granted subject to the same terms and conditions as applicable to stock options, including exercise price and term, as set forth above, and all tandem SARs shall have the same exercise price as the stock option to which they relate. SARs may be settled in combined company common stock, cash, restricted stock, or a combination thereof, at the 2023 EIP Administrator's discretion. Participants have no voting rights and no rights to receive dividends in respect of SARs until the participant becomes the holder of record of the combined company common stock subject to such SARs. The 2023 EIP Administrator may, without the combined company stockholder approval, reduce the exercise price of a previously awarded SAR, or cancel and re-grant or exchange any such SAR for cash or a new Award with a lower (or no) exercise price.

Restricted Stock and RSUs

Awards of restricted stock are shares of combined company common stock that are transferred to the participant subject to restrictions that may result in forfeiture if specified conditions are not satisfied. RSUs result in the transfer of shares of cash or combined company common stock to the participant only after specified conditions are satisfied. The 2023 EIP Administrator will determine the restrictions and conditions applicable to each award of restricted stock or RSUs, which may include performance vesting conditions. Participants are entitled to receive all dividends and other distributions paid with respect to shares of combined company common stock subject to restricted stock awards, unless determined otherwise by the 2023 EIP Administrator. Participants are entitled to receive dividend equivalents with respect to shares of combined company common stock subject to RSUs only to the extent provided by the 2023 EIP Administrator.

Notwithstanding the above, no dividends or dividend equivalents will be paid during the performance period with respect to unearned restricted stock or RSUs that are subject to performance-based vesting criteria until the date the performance-based vesting criteria has been achieved.

Incentive Bonuses

Each incentive bonus represents the opportunity to earn a future payment tied to the level of achievement with respect to one or more performance criteria established for a specified performance period. The 2023 EIP Administrator will establish the performance criteria and level of achievement versus these criteria that will determine the threshold, target, and maximum amount payable under an incentive bonus, which criteria may be

based on financial performance and/or personal performance evaluations. Payment of the amount due under an incentive bonus may be made in cash or combined company common stock, as determined by the 2023 EIP Administrator.

Other Stock-Based Awards

Other stock-based awards are Awards denominated in or payable in, valued in whole or in part by reference to, or otherwise based on or related to, the value of combined company common stock. The 2023 EIP Administrator shall determine the terms and conditions of such stock-based awards.

Performance Awards

The 2023 EIP Administrator may specify certain performance criteria which must be satisfied before Awards will be granted or will vest. The performance goals may vary from participant to participant, group to group, and period to period. Such Awards may be identified as "Performance Share," "Performance Equity," "Performance Unit," or other such term as chosen by the 2023 EIP Administrator.

Transferability

Awards generally may not be sold, transferred for value, pledged, assigned or otherwise alienated or hypothecated by a participant other than by will or the laws of descent and distribution, and each stock option or SAR may be exercisable only by the participant during his or her lifetime.

Adjustments

In the event any change is made to the combined company's outstanding common stock as a result of any reorganization, reclassification, combination of shares, stock split, reverse stock split, spin-off, dividend or distribution of securities, property or cash (other than regular, quarterly cash dividends), or any other event or transaction that affects the number or kind of shares of combined company common stock outstanding, then equitable and proportional adjustments will be made to the maximum number and class(es) of securities issuable under the 2023 EIP (including pursuant to incentive stock options). The terms of any outstanding Award shall also be equitably adjusted by the 2023 EIP Administrator as to price, number or kind of shares of combined company common stock subject to such Award, vesting, and other terms to reflect the foregoing events. No fractional shares of combined company common stock shall be issued or issuable pursuant to such an adjustment.

Change in Control

Upon a change in control, unless otherwise provided in an award agreement or other contract, the 2023 EIP Administrator may provide for any or all of the following upon a participant's termination of employment without cause or as a result of a material reduction in the participant's duties, authority or responsibility within 12 months following such change in control, subject to the participant's execution of a separation agreement and release agreement: (i) stock options or SARs shall fully vest and become exercisable, (ii) any performance Awards or incentive bonuses shall vest based on target level achievement or actual performance through a date determined by the 2023 EIP Administrator, and (iii) any restricted stock, RSUs or other stock-based awards (other than those referenced in subsection (ii)), shall vest on the later of the date of termination or the effective date of the separation agreement and release agreement (provided that, to the extent an award would be forfeited due to the termination, such forfeiture will be delayed and will only take effect if the separation agreement and release agreement do not go into effect). Upon a change in control in which the acquiring company does not assume outstanding Awards or issue substitute awards, then all Awards that are not assumed or substituted for shall be treated as follows, effective immediately prior to the change in control: (A) stock options or SARs shall fully vest and become exercisable, (B) any performance awards or incentive bonuses shall vest based on target

level achievement or actual performance through a date determined by the 2023 EIP Administrator, as determined by the 2023 EIP Administrator, and (C) any restricted stock, RSUs or other stock-based awards (other than those referenced in clause (B)) shall vest. Notwithstanding anything to the contrary, in the event of a change in control, the 2023 EIP Administrator may provide for the cancellation and cash settlement of all outstanding Awards.

Clawback/Recoupment

Awards granted under the 2023 EIP will be subject to recoupment in accordance with any clawback policy that the combined company adopts. In addition, the 2023 EIP Administrator may impose such other clawback, recovery or recoupment provisions in an Award agreement as the 2023 EIP Administrator determines necessary or appropriate, including a reacquisition right in respect of previously acquired shares of combined company common stock or other cash or property upon the occurrence of misconduct. No recovery of compensation under such a clawback policy will be an event giving rise to a right to resign for "good reason" or be deemed a "constructive termination" (or any similar term) as such terms are used in any agreement between any participant and the combined company.

Amendment and Termination

The combined company's board of directors has the right to amend, alter, suspend or terminate the 2023 EIP at any time, provided certain enumerated material amendments may not be made without the combined company stockholder approval. No amendment or alteration to the 2023 EIP or an Award or award agreement may be made that would materially impair the rights of the holder, without such holder's consent; however, no consent will be required if the 2023 EIP Administrator determines in its sole discretion and prior to the date of any change in control that such amendment or alteration either is required or advisable in order for us, the 2023 EIP or such Award to satisfy any law or regulation or to meet the requirements of or avoid adverse financial accounting considerations under any accounting standard, or is not reasonably likely to significantly diminish the benefits provided under such Award, or that any such diminishment has been adequately compensated.

Effective Date and Term

The 2023 EIP became effective on , 2023, subject to the approval of the Neoleukin stockholders. No award may be granted under the 2023 EIP after , 2033.

Federal Income Tax Considerations

The following is a summary of the U.S. federal income tax treatment applicable to the combined company and the participants who receive Awards under the 2023 EIP based on the federal income tax laws in effect on the date of this proxy statement. This summary is not intended to be exhaustive and does not address all matters relevant to a particular participant based on their specific circumstances. The summary expressly does not discuss the income tax laws of any state, municipality, or non-U.S. taxing jurisdiction, or the gift, estate, excise (including the rules applicable to deferred compensation under Section 409A of the Code), or tax laws other than U.S. federal income tax law. Because individual circumstances may vary, Neoleukin recommends that all participants consult their own tax advisor concerning the tax implications of Awards granted under the 2023 EIP.

Incentive Stock Options

Options granted under the 2023 EIP may be either incentive stock options, which satisfy the requirements of Section 422 of the Code, or non-qualified stock options, which are not intended to meet such requirements.

No taxable income is recognized by the optionee at the time of the option grant, and no taxable income is recognized for ordinary income tax purposes at the time the option is exercised, although taxable income may

arise at that time for alternative minimum tax purposes. Unless there is a "disqualifying disposition", as described below, the optionee will recognize long-term capital gain in an amount equal to the excess of (i) the amount realized upon the sale or other disposition of the purchased shares over (ii) the exercise price paid for the shares. A disqualifying disposition occurs if the disposition is less than two years after the date of grant or less than one year after the exercise date. If there is a disqualifying disposition of the shares, then the excess of (i) the fair market value of those shares on the exercise date or (if less) the amount realized upon such sale or disposition over (ii) the exercise price paid for the shares will be taxable as ordinary income to the optionee. Any additional gain or loss recognized upon the disposition will be a capital gain or loss.

If the optionee makes a disqualifying disposition of the purchased shares, then the combined company will be entitled to an income tax deduction for the taxable year in which such disposition occurs equal to the amount of ordinary income recognized by the optionee as a result of the disposition. The combined company will not be entitled to any income tax deduction if the optionee makes a qualifying disposition of the shares.

Nonqualified Stock Options

No taxable income is recognized by an optionee upon the grant of a non-qualified stock option. The optionee in general will recognize ordinary income, in the year in which the option is exercised, equal to the excess of the fair market value of the purchased shares on the exercise date over the exercise price paid for the shares, and the optionee will be required to satisfy the tax withholding requirements applicable to such income. The combined company will be entitled to an income tax deduction equal to the amount of ordinary income recognized by the optionee with respect to the exercised non-qualified stock option.

Stock Appreciation Rights

No taxable income is recognized upon receipt of a SAR. The participant will recognize ordinary income in the year in which the SAR is exercised, in an amount equal to the excess of the fair market value of the underlying shares of combined company common stock on the exercise date over the base price in effect for the exercised right, and the participant will be required to satisfy the tax withholding requirements applicable to such income. The combined company will be entitled to an income tax deduction equal to the amount of ordinary income recognized by the participant in connection with the exercise of the SAR.

Restricted Stock Awards

A participant who receives unvested shares of combined company common stock will not recognize any taxable income at the time those shares are granted but will have to report as ordinary income, as and when those shares subsequently vest, an amount equal to the excess of (i) the fair market value of the shares on the vesting date over (ii) the cash consideration (if any) paid for the shares. The participant may, however, elect under Section 83(b) of the Code to include as ordinary income in the year the unvested shares are issued an amount equal to the excess of (a) the fair market value of those shares on the issue date over (b) the cash consideration (if any) paid for such shares. If the Section 83(b) election is made, the participant will not recognize any additional income as and when the shares subsequently vest. The combined company will be entitled to an income tax deduction equal to the amount of ordinary income recognized by the participant at the time such ordinary income is recognized by the participant.

Restricted Stock Units, Other Stock-Based Awards, Incentive Bonuses

Generally, no taxable income is recognized upon the grant of RSUs, other-stock based awards or incentive bonuses. The participant will recognize ordinary income in the year in which the award is settled in shares or cash. The amount of that income will be equal to the fair market value of the shares on the date of issuance or the amount of the cash paid in settlement of the award, and the participant will be required to satisfy the tax withholding requirements applicable to the income. The combined company will be entitled to an income tax deduction equal to the amount of ordinary income recognized by the participant at the time the shares are issued or the cash amount is paid.

Deductibility of Executive Compensation

Section 162(m) of the Code limits the deductibility for federal income tax purposes of certain compensation paid to any "covered employee" in excess of $1 million. For purposes of Section 162(m), the term "covered employee" includes any individual who serves as chief executive officer, chief financial officer, or one of the other three most highly compensated executive officers for 2017 or any subsequent calendar year. It is expected that compensation deductions for any covered employee with respect to awards granted under the 2023 EIP will be subject to the $1 million annual deduction limitation. The 2023 EIP Administrator may grant Awards under the 2023 EIP or otherwise that are or may become non-deductible when it believes doing so is in the best interests of the combined company and the combined company's stockholders.

New Plan Benefits

Neoleukin cannot currently determine the benefits or number of shares subject to Awards that may be granted in the future to eligible participants under the 2023 EIP because the grant of Awards and terms of such Awards are to be determined in the sole discretion of the 2023 EIP Administrator.

Required Vote

The affirmative vote of a majority of the votes properly cast by the holders of Neoleukin common stock for the EIP Proposal is required to approve the EIP Proposal. Abstentions and broker non-votes, if any, will have no effect on the EIP Proposal.

The merger is **not** conditioned upon the approval of the EIP Proposal.

Certain of Neoleukin's and Neurogene's stockholders have agreed to vote any shares of common stock owned by them in favor of the EIP Proposal. See "*Agreements Related to the Merger—Support Agreements*" for more information.

Unless otherwise instructed, it is the intention of the persons named in the accompanying proxy card to vote shares represented by properly executed proxy cards "**FOR**" the approval of the EIP Proposal.

NEOLEUKIN'S BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE EIP PROPOSAL.

PROPOSAL NO. 6—ESPP PROPOSAL

General

At the Neoleukin special meeting, Neoleukin stockholders will be asked to approve the Neurogene Inc. 2023 Employee Stock Purchase Plan (the "2023 ESPP"), which was approved by the Neoleukin board of directors on , 2023 subject to Neoleukin stockholder approval. Pursuant to the terms of the Merger Agreement, the Neoleukin Therapeutics, Inc. 2020 Employee Stock Purchase Plan will terminate upon the consummation of the Merger.

Reasons for the Proposal

The 2023 ESPP is intended to enable eligible employees of the combined company and its designated subsidiaries to use payroll deductions and other additional payments, referred to as "contributions," to purchase shares of combined company common stock, and thereby acquire an interest in the future of the combined company. The 2023 ESPP is intended to qualify as an "employee stock purchase plan" under Section 423 of the Code; however, sub-plans that do not meet the requirements of Section 423 of the Code may be established for the benefit of eligible employees of non-U.S. subsidiaries of the combined company.

Summary of the 2023 ESPP

The following summary describes the material terms of the 2023 ESPP. This summary of the 2023 ESPP is not a complete description of all provisions of the 2023 ESPP and is qualified in its entirety by reference to the 2023 ESPP, which is attached to this proxy statement/prospectus as *Annex D*. Stockholders are encouraged to read the 2023 ESPP in its entirety.

Administration

The 2023 ESPP will be administered by the combined company compensation committee or another committee designated by the combined company board of directors to administer the 2023 ESPP (the "2023 ESPP Administrator"). All questions of interpretation of the 2023 ESPP are determined by the 2023 ESPP Administrator, whose decisions are final and binding upon all participants. The 2023 ESPP Administrator may delegate its responsibilities under the 2023 ESPP to one or more other persons.

Eligibility; Participation

Each employee of the combined company and its designated subsidiaries who is employed by the combined company (i) for at least 20 hours per week and (ii) for at least five months in any calendar year, and was employed by the combined company or its designated subsidiary at least 30 days prior to (a) an enrollment date (as described below) or (b) the beginning of the next purchase period (as described below) following an enrollment date, or as may otherwise be required to be permitted to participate by applicable law, will be eligible to participate in the 2023 ESPP. Employees will not be eligible to participate if, immediately after the grant, the employee would beneficially own 5% or more of the total combined voting power or value of all classes of combined company capital stock.

An eligible employee may begin participating in the 2023 ESPP effective at the beginning of an offering period (as described below). Once enrolled in the 2023 ESPP, a participant receives an option to purchase shares of combined company common stock with payroll deductions or other contributions, which is automatically exercised at the end of the applicable purchase period within an offering period (as described below). Once an offering period is over, a participant is automatically enrolled in the next offering period unless the participant chooses to withdraw from the 2023 ESPP. The minimum projected contribution by any participant during an offering period is $500. A participant may only accumulate contributions of up to $25,000 during each fiscal

year. Additionally, a participant will not be permitted to purchase more than 5,000 shares of combined company common stock during each purchase period (subject to adjustments as described below). The 2023 ESPP Administrator may, for future offering periods, increase or decrease the maximum number of shares of combined company common stock that a participant may purchase during each purchase period.

Employees of the combined company or a designated subsidiary who are citizens or residents of a non-U.S. jurisdiction may be excluded from participation in the 2023 ESPP or an option offering, as determined by the 2023 ESPP Administrator. The 2023 ESPP Administrator may establish one or more sub-plans of the 2023 ESPP to provide benefits to employees of designated subsidiaries located outside the United States in a manner that complies with local law. Any such sub-plan will be a component of the 2023 ESPP and will not be a separate plan.

As of , 2023, approximately employees are expected to be eligible to participate in the 2023 ESPP.

Shares Available Under the 2023 ESPP

The maximum number of shares of combined company common stock that will be made available for sale under the 2023 ESPP will be (i) plus (ii) any shares of combined company common stock added pursuant to the 2023 ESPP evergreen feature, which provides that the number of shares will automatically increase on January 1 of each year beginning in 2024 and ending with a final increase on January 1, 2033, subject to adjustment upon changes in the capitalization of the combined company, as described below. The annual increase will be in an amount equal to 1% of the total number of shares of combined company common stock outstanding, unless the combined company compensation committee determines that there will be a smaller increase, or no increase, with respect to a particular year. Until the shares of combined company common stock are issued, a participant will only have the rights of an unsecured creditor with respect to such shares, and no right to vote or receive dividends or any other rights as a stockholder will exist with respect to such shares. The number of shares reserved for issuance under the 2023 ESPP does not give effect to the proposed reverse stock split described in Proposal No. 2 of this proxy statement/prospectus.

Offering Periods

The 2023 ESPP will be implemented by consecutive “offering periods” and “purchase periods” during which shares of combined company common stock may be purchased pursuant to terms of the 2023 ESPP. The 2023 ESPP Administrator may change the duration and timing of offering periods and purchase periods (including the commencement dates thereof) without stockholder approval. The first offering period will commence on a date to be established by the 2023 ESPP Administrator and terminate on the last day of a full fiscal quarter, to be determined by 2023 ESPP Administrator, that ends up to eight full fiscal quarters following the date that the offering period commences, and subsequent offering periods will be each six-month period (two full fiscal quarters) commencing after the first offering period ends. Offering periods may not be longer than 27 months. Unless otherwise determined by the 2023 ESPP Administrator, the first purchase period will commence on the first day of the first offering period and will terminate on the last day of the second full fiscal quarter that follows the date that the first offering period commences, and subsequent purchase periods will be each six-month period (two full fiscal quarters) commencing after the first purchase period ends. The first trading day of each offering period is referred to as the “enrollment date,” and the last trading day of each purchase period is referred to as the “exercise date,” which is the date on which options for such purchase period are exercised.

Purchase Price

The price per share at which shares are purchased under the 2023 ESPP will generally be 85% of the fair market value of combined company common stock on the first day of the offering period or the last day of the purchase period, whichever is lower; however, the 2023 ESPP Administrator may determine a different

purchase price. A participant may designate payroll deductions or other contributions (up to 15% of a participant's compensation) to be used to purchase shares. A participant may only change the percentage or other amount of compensation that is deducted to purchase shares under the 2023 ESPP (other than to withdraw entirely from the 2023 ESPP) effective at the beginning of a purchase period. At the end of each purchase period, unless the participant has withdrawn from the 2023 ESPP, payroll deductions and other contributions are applied automatically to purchase shares of combined company common stock at the purchase price described above. The number of shares purchased is determined by dividing the payroll deductions and other contributions by the applicable purchase price.

Withdrawal

A participant may withdraw all, but not less than all, of the contributions credited to his or her notional account and not yet used to exercise his or her option under the 2023 ESPP at any time. Upon withdrawal, all of the participant's contributions credited to the participant's notional account will be paid to the participant as soon as reasonably practicable after receipt of notice of withdrawal (without interest, except as otherwise required under local laws or permitted by the terms of the 2023 ESPP), the participant's option for the offering period will be automatically terminated, and no further contributions for the purchase of shares will be made for such offering period. Following a participant's withdrawal, the participant will not be eligible to re-enroll in the 2023 ESPP until the earlier of the succeeding (i) enrollment date or (ii) purchase period.

Termination of Employment or Eligibility

Upon the termination of a participant's employment with the combined company or a designated subsidiary, as applicable, for any reason or if a participant loses eligibility to participate in the 2023 ESPP, the participant will be deemed to have elected to withdraw from the 2023 ESPP and the contributions credited to such participant's notional account during the offering period but not yet used to purchase shares will be returned to the participant or, in the case of his or her death, to the person or persons entitled to such amounts under the terms of the 2023 ESPP (without interest, except as otherwise required under local laws or as permitted by the terms of the 2023 ESPP), and the participant's option to purchase shares will be automatically terminated. In no event may a participant be granted an option to purchase shares under the 2023 ESPP following termination of such participant's employment.

Corporate Events

In the event of any reorganizations, recapitalizations, stock splits, reverse stock splits, stock dividends, extraordinary dividends or distributions or similar events, the 2023 ESPP Administrator will appropriately adjust the number and class of shares available under the 2023 ESPP, any outstanding purchase rights and the applicable purchase price of such shares.

In the event of the proposed dissolution or liquidation of the combined company, any offering period then in progress will be shortened by setting a new exercise date and will terminate immediately prior to the consummation of such proposed dissolution or liquidation, unless provided otherwise by the 2023 ESPP Administrator.

In the event of a merger, sale or other similar corporate transaction involving the combined company, each outstanding option will be assumed or an equivalent option substituted by the successor corporation or an affiliate of the successor corporation. In the event that the successor corporation refuses to assume or substitute for the option, the offering period with respect to which such option relates will be shortened by setting a new exercise date on which such offering period will end.

Transferability

Rights to purchase combined company common stock under the 2023 ESPP may not be transferred by a participant and may be exercised during a participant's lifetime only by the participant.

Amendment and Termination

If the stockholders approve the 2023 ESPP, it will be effective on , 2023 and will continue in effect until , 2033. The 2023 ESPP Administrator may amend, alter or discontinue the 2023 ESPP in any respect at any time.

New Plan Benefits

The benefits that will be received by or allocated to eligible employees under the 2023 ESPP cannot be determined at this time because the amount of payroll deductions or other contributions made to purchase shares of combined company common stock under the 2023 ESPP is entirely within the discretion of each participant (subject to the limitations discussed above).

U.S. Federal Income Tax Considerations

The following is a brief description of the federal income tax treatment that will generally apply to the grant and exercise of rights under the 2023 ESPP, based on federal income tax laws currently in effect. The exact federal income tax treatment of options will depend on the specific nature of any such option and the individual tax attributes of the participant. The following summary is not intended to be exhaustive and, among other considerations, does not describe gift, estate, social security, state, local or international tax considerations. In addition, if one or more sub-plans are established for employees of non-U.S. subsidiaries, the tax rules may be different than discussed below.

The 2023 ESPP is intended to qualify as an “employee stock purchase plan” under Section 423 of the Code and, as a result, employees who participate in the 2023 ESPP will be afforded favorable tax treatment subject to meeting certain requirements specified by the Code. In general, there are no federal income tax considerations to a participant upon the grant of the option to purchase shares under the 2023 ESPP at the beginning of an option period or upon its exercise on the exercise date at the end of an option period. Upon the disposition of shares of common stock acquired upon exercise of an option, the participant will generally be subject to tax and the nature and amount of the tax will depend on whether the employee has satisfied the statutory holding period.

If the employee holds shares acquired under the 2023 ESPP for at least two years from the grant date of his or her option and at least one year from the date he or she acquired the shares (referred to as the “statutory holding period”), any gain on the sale of the shares will be taxed as ordinary income to the extent of the lesser of (i) the amount by which the fair market value of the shares on the grant date (i.e., the first day of the option period) exceeded the exercise price for the option, or (ii) the amount by which the fair market value of the shares on the date of sale exceeds the exercise price of the option. Any additional gain or loss will be taxed as long-term capital gain or loss.

If the participant sells or otherwise disposes of the shares before the expiration of the statutory holding period, then in the year of such “disqualifying” disposition, the participant will be required to recognize ordinary income equal to the difference between the fair market value of the shares on the date of the exercise of the option and the exercise price of the option. Any additional gain or loss will be short-term or long-term capital gain or loss depending on the length of time the employee has held the shares.

The combined company is not entitled to any deduction with respect to the difference between the fair market value of the common stock and the option exercise price if the participant satisfies the statutory holding period described above. If shares are sold before the statutory holding period is satisfied, the combined company receives a tax deduction for any ordinary income recognized by the participant.

Required Vote

The affirmative vote of a majority of the votes properly cast by the holders of Neoleukin common stock for the ESPP Proposal is required to approve the ESPP Proposal. Abstentions and broker non-votes, if any, will have no effect on the ESPP Proposal.

The merger is **not** conditioned upon the approval of the ESPP Proposal.

Certain of Neoleukin's and Neurogene's stockholders have agreed to vote any shares of common stock owned by them in favor of the ESPP Proposal. See "*Agreements Related to the Merger—Support Agreements*" for more information.

Unless otherwise instructed, it is the intention of the persons named in the accompanying proxy card to vote shares represented by properly executed proxy cards "**FOR**" the approval of the ESPP Proposal.

NEOLEUKIN'S BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE ESPP PROPOSAL.

PROPOSAL NO. 7—THE ADJOURNMENT PROPOSAL

General

If Neoleukin fails to receive a sufficient number of votes to approve the Nasdaq Stock Issuance Proposal, the Reverse Stock Split Proposal and/or the Authorized Share Increase Proposal, Neoleukin may propose to adjourn the Neoleukin special meeting, for a period of not more than 60 days, for the purpose of soliciting additional proxies to approve the Nasdaq Stock Issuance Proposal, the Reverse Stock Split Proposal and/or the Authorized Share Increase Proposal. Neoleukin currently does not intend to propose adjournment at the Neoleukin special meeting if there are sufficient votes to approve the Nasdaq Stock Issuance Proposal, the Reverse Stock Split Proposal and/or the Authorized Share Increase Proposal.

If a quorum is not present at the Neoleukin special meeting, under Neoleukin's bylaws, the chair of the Neoleukin special meeting will have the power to adjourn the special meeting until a quorum is present or represented.

Required Vote

The affirmative vote of a majority of the votes properly cast by the holders of Neoleukin common stock for the Adjournment Proposal is required to approve the Adjournment Proposal. Abstentions and broker non-votes, if any, will have no effect on the Adjournment Proposal.

The merger is **not** conditioned upon the approval of the Adjournment Proposal.

Unless otherwise instructed, it is the intention of the persons named in the accompanying proxy card to vote shares represented by properly executed proxy cards "**FOR**" the approval of the Adjournment Proposal.

NEOLEUKIN'S BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THE ADJOURNMENT PROPOSAL, IF NECESSARY.

NEOLEUKIN'S BUSINESS

Unless the context otherwise requires, references to "Neoleukin" in this section entitled "Neoleukin's Business" generally refer to Neoleukin Therapeutics, Inc., a Delaware corporation ("Neoleukin") in the present.

Overview

Neoleukin is a biopharmaceutical company that has historically focused on creating next generation immunotherapies for cancer, inflammation, and autoimmunity using *de novo* protein design technology. Neoleukin developed sophisticated computational methods to design proteins that demonstrate specific pharmaceutical properties designed to provide potentially superior therapeutic benefit over native proteins. Through this method Neoleukin has been able to produce proteins that, while resembling native proteins, may have novel molecular interfaces, differential activation of specific cell types, increased stability, or improved biodistribution. *De novo* proteins have the capacity to be cytokine receptor agonists, antagonists, or result in conditional activation of specific cytokine receptors such that they may regulate inflammation or the immune response to cancer and inflammatory conditions.

Neoleukin's work has historically been primarily focused on key cytokine mimetics, which it refers to as Neoleukin *de novo* cytokine mimetics, that can be modified to adjust affinity, thermodynamic stability, resistance to biochemical modification, pharmacokinetic characteristics, potency and targeting to tumor or inflamed tissues. Neoleukin's first product candidate was NL-201, a *de novo* protein designed to mimic the therapeutic activity of the cytokines interleukin-2 ("IL-2"), and interleukin-15 ("IL-15"), for the potential treatment of various types of cancer, including renal cell carcinoma, melanoma, and hematological malignancies, while limiting the toxicity cause by the preferential binding of IL-2 and IL-15 to non-target cells. Neoleukin initiated a Phase 1 clinical trial for NL-201 in May 2021; however, based on a review of the preliminary data from this trial, the benefit to risk ratio for patients and recent developments in the field of IL-2 therapeutics, Neoleukin made a strategic decision to close that trial in November 2022. Following the decision to discontinue development of NL-201, Neoleukin turned its focus to research into the next generation of *de novo* cytokine mimetics that further widen the therapeutic window, such as the development of targeted and conditionally activated molecules to create potent immune agonists.

In November 2022, Neoleukin announced a corporate restructuring as a result of the strategic decision to discontinue development of NL-201 and turn its focus to the next generation of *de novo* cytokine mimetics that further widen the therapeutic window. While Neoleukin believes that there are promising developments in this field of research, it also continued to evaluate strategic alternatives in light of the challenging capital markets. As a result of the restructuring plan approved by the Neoleukin board of directors in November 2022 in connection with the decision to discontinue development of NL-201, Neoleukin reduced its workforce by approximately 40%. In March 2023, Neoleukin announced a further corporate restructuring to significantly reduce its workforce and suspend its research and development activities in order to conserve capital and focus on other strategic alternatives, and the Neoleukin board of directors approved a further restructuring plan to reduce Neoleukin's workforce by approximately 70% of its remaining employees. These restructurings were completed by the end of the second quarter of 2023.

Recent Developments

On July 17, 2023, Neoleukin, Project North Merger Sub, Inc., a Delaware corporation and wholly owned subsidiary of Neoleukin ("Merger Sub"), and Neurogene Inc., a Delaware corporation ("Neurogene"), entered into an Agreement and Plan of Merger (the "Merger Agreement"), pursuant to which, among other matters and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly owned subsidiary of Neoleukin, and Neurogene being the surviving corporation of the Merger. For additional information, see the sections entitled "*The Merger*" and "*The Merger Agreement*" beginning on pages 105 and 152 of this proxy statement/prospectus, respectively.

If the Merger is completed, the combined company will focus on developing Neurogene's product candidates, which are described on page 241 under the section entitled "*Neurogene's Business*," and it is anticipated that the combined company will not continue to develop Neoleukin's product candidates. If the Merger is not completed, Neoleukin will reconsider its strategic alternatives.

Neoleukin's Historical *De Novo* Protein Design Technology

Neoleukin's *de novo* protein design process uses a set of advanced computational algorithms and methods to design functional *de novo* proteins. A protein is generally defined as one or more chains of covalently-linked amino acids – totaling at least 50 amino acids – that assemble into a 3-dimensional structure. Human cells contain tens of thousands of different proteins; however, this is still only a small subset of all possible amino acid sequences that can be assembled to form a protein. While protein engineering to date has been conducted primarily through the modification of native proteins, with Neoleukin's *de novo* protein design methods it is able to explore the full sequence space, guided by the physical principles that underlie protein folding, and design functional proteins from the ground up. Neoleukin's *de novo* proteins fit the above definition of a protein, but, unlike native proteins, are designed using its proprietary computational algorithms and methods. Successful *de novo* protein design is a cutting-edge process that requires both advanced computational tools and deep insight into how a sequence of amino acids will fold into a stable 3-dimensional protein. By incorporating machine learning and neural networks into Neoleukin's existing *de novo* protein design methods, its scientists have been able to accelerate the discovery process and expand the scope and complexity of addressable protein structures.

To design a *de novo* cytokine mimetic prior to the era of machine learning and neural networks, Neoleukin required an accurate model of the biological target, typically a high-resolution crystal structure. With recent advances in machine learning being implemented in Neoleukin's design process, it is now possible to predict structures even when they have not been experimentally determined. Neoleukin's methods preserve or modify critical protein/protein interfaces and build unique scaffolds to stabilize the *de novo* proteins. Amino acid sequences that will fold into the desired structures are encoded as DNA, which can then be expressed and experimentally tested for the desired biological activity and specificity. The resulting proteins are unlike anything that exists in nature and can be fine-tuned to improve on the desired biological activity.

Immunotherapy Market Overview

Over the past several decades, the potential of the immune system to control and/or eliminate cancer has been better understood and appreciated. Research and development into a range of immunotherapies, including allogeneic stem cell transplantation, checkpoint inhibitors, T-cell engagers, immune agonists and cellular therapies have, in some cases, led to impressive improvements in patient outcomes. Immune checkpoint inhibitors are one of the most widely used classes of cancer immunotherapy and have allowed some patients with metastatic cancers who have had generally poor prognoses the ability to achieve durable responses. The initial drug in this class, ipilimumab, was approved by the United States Food and Drug Administration (the "FDA") in 2011. Since that time, many additional checkpoint inhibitors have been approved by the FDA. However, checkpoint inhibitors have their limitations: despite achieving success in a subset of patients, checkpoint inhibitors often fail to control tumor growth, and some patients cannot tolerate the therapy regimen. While checkpoint inhibitors work to block the mechanisms by which malignant cells evade immunological surveillance by anti-cancer T cells, they are less effective in patients who lack a favorable tumor microenvironment, expression of the inhibitory ligand, or sufficient tumor-specific antigens. For these patients, novel approaches to immunotherapy are needed that complement and/or enhance checkpoint inhibition. What is needed is a new class of agents that activate and recruit immune cells in the tumor microenvironment.

Clinical Trial of NL-201

Neoleukin's first product candidate to advance into clinical trial was NL-201, a computationally designed CD25-independent agonist of the IL-2 and IL-15 receptors. NL-201 was designed to eliminate binding to the

alpha subunit of the IL-2 receptor (also known as CD25) while enhancing binding to the beta and gamma subunits. In multiple preclinical animal models, a precursor to NL-201 demonstrated substantial antitumor activity without detectable binding to CD25, as compared to native IL-2. Following these preclinical studies, Neoleukin further refined its precursor to extend its half-life, resulting in the NL-201 product candidate. Neoleukin then completed multi-dose, Good Laboratory Practice ("GLP") and non-GLP toxicology studies of NL-201 in rats and non-human primates, and initiated its first in-human clinical trial. This included completion of GLP in-life dosing with no unexpected toxicities observed. NL-201 was intended to be used as either a single-agent or in combination with complementary therapeutic modalities, including checkpoint inhibitors.

In May 2021, Neoleukin enrolled the first patient in a Phase 1 clinical trial of NL-201 for advanced solid tumors. On May 16, 2022, Neoleukin announced that it had begun dosing patients in a new arm of the clinical trial study with a combination of NL-201 and Merck's checkpoint inhibitor KEYTRUDA® (pembrolizumab). On November 12, 2022, Neoleukin made the decision to discontinue development of NL-201 for strategic reasons and to focus its resources on advancing the next generation of *de novo* protein therapeutics, using the lessons learned from its development of NL-201. Neoleukin also discontinued plans for any future trials of NL-201, including a Phase 1 clinical trial in hematological malignancies.

Preclinical Research Programs

Following the decision to discontinue development of NL-201, Neoleukin turned its focus to research into the next generation of *de novo* cytokine mimetics that further widen the therapeutic window, such as the development of targeted and conditionally activated molecules to create potent immune agonists. Neoleukin combined its expertise in *de novo* protein design, including data gathered from the development of NL-201 and research into other novel cytokine mimetics, with advances in machine learning and neural networks to expand the scope of the design process to include more complex protein structures and create more sophisticated and dynamic structural elements than were previously possible.

Neoleukin's research team has also developed other molecules using its *de novo* protein design capabilities, including potential therapeutic candidates that may be developed in the future. In 2020, Neoleukin reported development of NL-CVX1, a fully *de novo* decoy protein that was designed to block infection of human cells by the SARS-CoV-2 virus. In June 2021, Neoleukin suspended plans to develop this molecule as effective vaccines became widely available; however, Neoleukin believes this is a powerful example of the capability of its technology to develop potential *de novo* therapies in a short time frame. In 2021, Neoleukin reported preclinical data for an inhibitor of IL-2 and IL-15 activity, Neo-5171, which demonstrated in vivo anti-inflammatory activity. In December 2022, Neoleukin presented data on NEO-TRA1, a precision-tuned agonist of the IL-2 receptor beta and gamma subunits that is targeted to and selectively expands T-regulatory cells, at the American Society of Hematology (ASH) meeting.

Following the decision by the Neoleukin board of directors in March 2023 to further restructure Neoleukin to conserve capital and focus on strategic alternatives, Neoleukin suspended its research and development activities.

UW License Agreement

On July 8, 2019, Neoleukin's predecessor, Neoleukin Therapeutics, Inc. ("Former Neoleukin") entered into an Exclusive License Agreement with the University of Washington ("UW"), under which UW (on behalf of itself and Stanford University) granted the Former Neoleukin an exclusive worldwide license under certain patent rights, to make, have made, use, offer to sell, sell, offer to lease, lease, import, export or otherwise offer to dispose of licensed products in all fields of use, and a nonexclusive worldwide license to use certain know-how. The foregoing licenses were sublicensable by Former Neoleukin without UW's consent, subject to certain limited conditions. Neoleukin assumed the benefits and obligations of the Exclusive License Agreement in connection with the completion of the merger of Former Neoleukin into Neoleukin. The Exclusive License Agreement was amended effective as of July 24, 2020 to, among other things, (i) add a jointly owned patent application family

directed to *de novo* cytokine antagonists to the agreement, (ii) specify royalties, milestone payments and sublicense consideration payments payable by Neoleukin for licensed products under certain patent rights related to the jointly owned patent application, (iii) specify the term for achievement of performance milestones for licensed products under certain patents rights related to the jointly owned patent application, and (iv) terminate UW's right to participate in equity financings. The Exclusive License Agreement was amended a second time, effective as of December 15, 2021 to, among other things, add a second jointly owned patent application family directed to *de novo* cytokine antagonists to the agreement subject to the same terms of the first jointly owned patent application family.

As consideration for the licensed rights, Former Neoleukin issued shares of common stock to UW, representing five percent of its fully-diluted capitalization on the date on which the Exclusive License Agreement was executed. Additionally, Neoleukin is required to pay UW: (i) an annual maintenance fee starting in January 2022 (but excluding any year in which minimum annual royalties are paid); (ii) up to $875,000 in combined development and regulatory milestone payments with respect to each distinct class of licensed product; (iii) up to $10.0 million in combined commercial milestone payments based on cumulative net sales of licensed products within each distinct class of licensed product; (iv) a low single digit royalty on net sales of licensed products sold by Neoleukin and its sublicensees, which may be subject to reductions, and subject to minimum annual royalty payments following the first commercial sale of a licensed product; (v) a certain percentage of any sublicense consideration (other than royalties) Neoleukin receives from sublicensees, ranging from 50% to low single digit percentages based on the stage of development at the time the sublicense is executed; and (vi) a certain percentage of consideration Neoleukin receives from an acquisition of it or its assets, ranging from 50% to zero based on the stage of development at the relevant time. Neoleukin is obligated to pay royalties on a country-by-country basis until the expiration of the last valid claim within the licensed patent rights in such country.

The Exclusive License Agreement will expire upon the expiration of the last valid claim within the licensed patent rights. Neoleukin may terminate the Exclusive License Agreement upon prior written notice to UW. UW may terminate the Exclusive License Agreement by giving a specified number of days' notice if Neoleukin permanently ceases operations, becomes insolvent or similar, or if Neoleukin challenges the validity of the licensed patent rights. In addition, UW may terminate the Exclusive License Agreement for material breach that is not cured within a specified number of days, which cure period is to be at least doubled if Neoleukin is proceeding diligently to cure the default.

Intellectual Property

Neoleukin's intellectual property strategy is centered around robust protection of its pipeline molecules and enabling technologies. Neoleukin has licensed rights to patents and patent applications stemming from provisional patent applications that its scientific co-founders authored while they were employees at UW. Neoleukin has also licensed rights to two provisional patent applications that it jointly owns with UW. These patents and patent applications, as applicable, include disclosure and claims encompassing NL-201 the composition of matter of other IL-2/IL-15 cytokine mimetics, as well as methods of using the computational algorithms that form the basis of Neoleukin's *de novo* protein design process. Neoleukin has secured an exclusive license from UW to develop and commercialize products covered by these patents and patent applications. For NL-201 and related technology, three U.S. patents have issued and will expire in 2039, absent any patent term adjustments or extensions. A fourth U.S. patent has issued directed to certain targeted Il-2/IL-15 mimetics which will expire in 2039, absent any patent term adjustments or extensions. Additional patent applications are pending in the United States and world-wide. Any patents that may issue from these patent applications in-licensed from UW are expected to expire in 2039, absent any patent term adjustments or extensions.

Neoleukin has filed U.S. non-provisional applications and Patent Cooperation Treaty ("PCT") applications that claim the benefit of the priority date of earlier filed provisional applications, when appropriate. The PCT system allows a single application to be filed within 12 months of the original priority date of the patent

application, and to designate all of the 153 PCT member states in which national patent applications can later be pursued based on the international patent application filed under the PCT. The PCT searching authority performs a patentability search and issues a non-binding patentability opinion which can be used to evaluate the chances of success for the national applications in foreign countries prior to having to incur the filing fees. Although a PCT application does not issue as a patent, it allows the applicant to seek protection in any of the member states through national-phase applications. At the end of the period of 2 1/2 years from the first priority date of the patent application, separate patent applications can be pursued in any of the PCT member states either by direct national filing or, in some cases by filing through a regional patent organization, such as the European Patent Organization. The PCT system delays expenses, allows a limited evaluation of the chances of success for national/regional patent applications and enables substantial savings where applications are abandoned within the first two and a half years of filing.

Neoleukin has historically pursued patent issuance and protection in key commercial markets where Neoleukin expects significant product sales may occur.

Competition

The biotechnology and pharmaceutical industries are characterized by rapid evolution of technologies, including the use of machine learning techniques to advance the development of molecular design, among other things, fierce competition, and in many cases strong defense of intellectual property. At the same time, some of the processes Neoleukin has used in its design includes access to publicly available computational tools, which are also readily accessible to many of its competitors. While Neoleukin believes that its *de novo* protein design process combined with its knowledge, experience, and scientific resources provide it with competitive advantages for developing product candidates, should Neoleukin decide to again pursue development of its product candidates, Neoleukin's product candidates may face competition from major pharmaceutical and biotechnology companies, academic institutions, governmental agencies, and public and private research institutions, among others.

The development of next-generation cancer immunotherapy is an area of intense interest within the biotechnology industry. Neoleukin is aware of several immune agonists in various stages of clinical development, including engineered variants of IL-2 that attempt to improve on IL-2's narrow therapeutic window by inhibiting IL-2's natural high-affinity interaction with CD25 using traditional protein engineering approaches including steric inhibition and mutagenesis. While Neoleukin is no longer pursuing clinical trials of NL-201 and has suspended its research and development activities, should Neoleukin decide to again pursue development of its product candidates, its product candidates may still be competitive with these types of immune agonists.

Many of Neoleukin's competitors, either alone or with strategic partners, have substantially greater financial, technical, and human resources than Neoleukin does. Accordingly, such competitors may be more successful than Neoleukin in developing their product candidates on a faster timeline, obtaining approval for treatments, and achieving widespread market acceptance, rendering its treatments obsolete or non-competitive. Accelerated merger and acquisition activity in the biotechnology and biopharmaceutical industries may result in even more resources being concentrated among a smaller number of its competitors. These companies also compete with Neoleukin in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites, and patient registration for clinical trials and acquiring technologies complementary to, or necessary for, its programs. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. Neoleukin's commercial opportunity could be substantially limited in the event that its competitors develop and commercialize products that are more effective, safer, less toxic, more convenient, less expensive or have a wider therapeutic window than its comparable products. In geographies that are critical to its commercial success, competitors may also obtain regulatory approvals before Neoleukin, resulting in its competitors building a strong market position in advance of the entry of its products. Neoleukin believes the primary factors determining the success of its programs, should Neoleukin decide to resume development of its product candidates, will be the efficacy, safety, and convenience of its product candidates.

Manufacturing

Neoleukin historically conducted manufacturing activities for the clinical development of its product candidates under individual purchase orders with third-party contract manufacturing organizations and did not have a manufacturing facility nor any plans to develop one.

The FDA and other health authorities worldwide regulate and inspect equipment, facilities and processes used in manufacturing pharmaceutical products prior to approval. If Neoleukin or its partners fail to comply with applicable requirements and conditions of product approval, the FDA and/or other global health authorities may seek sanctions, including fines, civil penalties, injunctions, suspension of manufacturing operations, operating restrictions, withdrawal of FDA and/or other global health authorities' approval, seizure or recall of products and criminal prosecution.

Commercial Operations

Neoleukin does not currently have an organization for the sales, marketing and distribution of pharmaceutical products.

Government Regulation

As a biopharmaceutical company that operates and may seek approval for pharmaceutical product candidates in the United States, Neoleukin is subject to extensive regulation by the FDA and other federal, state, and local regulatory agencies. The Federal Food, Drug, and Cosmetic Act (the "FDC Act"), and its implementing regulations set forth, among other things, requirements for the research, testing, development, manufacture, quality control, safety, effectiveness, approval, labeling, storage, record keeping, reporting, distribution, import, export, advertising and promotion of Neoleukin's products. Should Neoleukin decide to resume development of its product candidates, Neoleukin's pharmaceutical product candidates must be approved by the FDA before commencing clinical trials or marketing those products in the United States.

Although the discussion below focuses on regulation in the United States, Neoleukin conducts research activities and anticipate seeking approval for, and marketing of, Neoleukin's products in other countries and regions, such as Canada and Australia. Generally, Neoleukin's activities in other countries will be subject to regulation that is similar in nature and scope as that imposed in the United States, although there can be important differences. Additionally, some significant aspects of regulation in Europe are addressed in a centralized way through the European Medicines Agency ("EMA"), but country-specific regulation remains essential in many respects. The process of obtaining regulatory marketing approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources.

FDA Approval Process

The FDA is the main regulatory authority that controls pharmaceuticals in the United States, and its regulatory authority is based in the FDC Act. Pharmaceutical products are also subject to other federal and state statutes and regulations. Biological products used for the prevention, treatment, or cure of a disease or condition of a human being are subject to regulation under the FDC Act, except the section of the FDC Act which governs the approval of New Drug Applications ("NDAs"). Biological products are approved for marketing under provisions of the Public Health Service Act ("PHSA") via a Biologics License Application ("BLA"). However, the application process and requirements for approval of BLAs are very similar to those for NDAs. A failure to comply with any requirements during the product development, approval, or post-approval periods, may lead to administrative or judicial sanctions. These sanctions could include the imposition by the FDA or an institutional review board ("IRB") of a hold on clinical trials, refusal to approve pending marketing applications or supplements, withdrawal of approval, warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties or criminal prosecution.

The steps required before a new biological product may be marketed in the United States generally include:

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's Good Laboratory Practices regulations;
- submission to the FDA of an Investigational New Drug Application ("IND") which must become effective before human clinical trials may begin;
- approval by an IRB at each clinical site before each trial may be initiated;
- performance of adequate and well-controlled clinical trials in accordance with federal regulations and with current good clinical practices ("GCPs") to establish the safety and efficacy of the investigational drug product for each targeted indication;
- development of manufacturing processes to ensure the product candidate's identity, strength, quality, purity, and potency;
- submission of BLA to the FDA;
- satisfactory completion of an FDA inspection of the manufacturing facilities at which the investigational product is produced to assess compliance with the FDA's Current Good Manufacturing Practice Regulations ("cGMP") and to assure that the facilities, methods and controls are adequate;
- satisfactory completion of FDA inspection of investigator sites; and
- FDA review and approval of the BLA.

With the enactment of the Biologics Price Competition and Innovation Act of 2009 ("BPCIA"), an abbreviated pathway for the approval of biosimilar and interchangeable biological products was created. The abbreviated regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as interchangeable based on its similarity to an existing reference product. Notwithstanding minor differences in clinically inactive components, biosimilarity sufficient to reference a prior FDA-approved product requires a high similarity to the reference product and no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, potency, mechanism of action, conditions of use, route of administration, and dosage formulation. Biosimilarity must be shown through analytical studies, animal studies, and at least one clinical trial, absent a waiver by the FDA.

Under the BPCIA, an application for a biosimilar product cannot be approved by the FDA until 12 years after licensure date of the reference product licensed under a BLA. No application for a biosimilar can be submitted for four years from the licensure date of the reference product. However, certain changes and supplements to an approved BLA, and subsequent applications filed by the same sponsor, manufacturer, licensor, predecessor in interest, or other related entity do not qualify for the 12-year exclusivity period.

Preclinical tests include laboratory evaluation of product chemistry, formulation, and toxicity, as well as animal trials to access the characteristics and potential safety and efficacy of the product. The conduct of the preclinical tests must comply with federal regulations and requirements, including Good Laboratory Practices. The results of preclinical testing are submitted to the FDA as part of an IND along with other information, including information about product chemistry, manufacturing and controls, and a proposed clinical trial protocol. Long-term preclinical tests, such as tests of reproductive toxicity and carcinogenicity in animals, may continue after the IND is submitted. A 30-day waiting period after the submission of each IND is required prior to the commencement of clinical testing in humans. If the FDA has neither commented on nor questioned the IND within this 30-day period, the clinical trial proposed in the IND may begin. Clinical trials involve the administration of the investigational drug to patients under the supervision of qualified investigators following GCPs, an international standard meant to protect the rights and health of patients and to define the roles of clinical trial sponsors, administrators and monitors. Clinical trials must be conducted: (i) in compliance with

federal regulations; (ii) in compliance with GCPs, an international standard meant to protect the rights and health of patients and to define the roles of clinical trial sponsors, administrators, and monitors; as well as (iii) under protocols that detail the parameters to be used in monitoring safety, and the efficacy criteria to be evaluated. Each protocol involving testing on U.S. patients and subsequent protocol amendments must be submitted to the FDA as part of the IND.

The FDA may order the temporary or permanent discontinuation of a clinical trial at any time, or impose other sanctions, if it believes that the clinical trial either is not being conducted in accordance with FDA regulations or presents an unacceptable risk to the clinical trial patients. The trial protocol and informed consent information for patients in clinical trials must also be submitted to an IRB for approval. An IRB may also require the clinical trial at the site to be halted, either temporarily or permanently, for failure to comply with the IRB's requirements, or may impose other conditions if it believes that the patients are subject to unacceptable risk. In some cases, clinical trials are overseen by an independent group of qualified experts organized by the trial sponsor, for example, the data safety monitoring board, or DSMB. The suspension or termination of development can occur during any phase of clinical trials if it is determined that the participants or patients are being exposed to an unacceptable health risk.

The clinical investigation of an investigational drug is generally divided into three phases. Although the phases are usually conducted sequentially, they may overlap or be combined. The three phases of an investigation are generally described as follows:

- *Phase 1*—Phase 1 includes the initial introduction of an investigational drug into humans. Phase 1 clinical trials may be conducted in patients with the target disease or condition or healthy volunteers. These trials are designed to evaluate the safety, metabolism, pharmacokinetics and pharmacologic actions of the investigational drug in humans, the side effects associated with increasing doses, and if possible, to gain early evidence on effectiveness. During Phase 1 clinical trials, sufficient information about the investigational product's pharmacokinetics and pharmacological effects may be obtained to permit the design of Phase 2 clinical trials.
- *Phase 2*—Phase 2 includes controlled clinical trials conducted to evaluate the effectiveness of the investigational product for a particular indication(s) in patients with the disease or condition under study, to determine dosage tolerance and optimal dosage, and to identify possible adverse side effects and safety risks associated with the drug. Phase 2 clinical trials are typically well-controlled, closely monitored, and conducted in a limited patient population.
- *Phase 3*—Phase 3 clinical trials are controlled clinical trials conducted in an expanded patient population at geographically dispersed clinical trial sites. They are performed after preliminary evidence suggesting effectiveness of the investigational product has been obtained and are intended to further evaluate dosage, clinical effectiveness and safety, to establish the overall benefit-risk relationship of the product, and to provide an adequate basis for product approval. In most cases, the FDA requires two adequate and well-controlled Phase 3 clinical trials to demonstrate the efficacy of the drug. A single Phase 3 trial may be sufficient in rare instances including (1) where the study is a large multicenter trial demonstrating internal consistency and a statistically very persuasive finding of a clinically meaningful effect on mortality, irreversible morbidity or prevention of a disease with a potentially serious outcome and confirmation of the result in a second trial would be practically or ethically impossible or (2) when in conjunction with other confirmatory evidence.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the product and finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the manufacturer must develop methods for testing the identity, strength, quality, purity and potency of the final product. Additionally, appropriate packaging must be selected and tested, and stability studies must be

conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, a BLA is submitted to the FDA to request market approval for the product in specified indications. The BLA must include the results of all preclinical, clinical, and other testing and a compilation of data relating to the product's pharmacology, chemistry, manufacturing, and controls. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and effectiveness of the investigational drug product to the satisfaction of the FDA. The cost of preparing and submitting a BLA is substantial. The submission of most BLAs is additionally subject to a substantial user fee; there may be some instances in which the user fee is waived.

The FDA will initially review the BLA for completeness before it accepts the BLA for filing. The FDA has 60 days from its receipt of a BLA to determine whether the application will be accepted for filing based on the FDA's threshold determination that it is sufficiently complete to permit substantive review. After the BLA submission is accepted for filing, the FDA begins an in-depth review. The FDA has agreed to certain performance goals in the review of BLAs. For a new molecular entity, or NME, that is classified as a standard review product, FDA's goal is to review the BLA within ten months of the date the FDA files the BLA; an application for an NME that is classified as a priority review product has a goal for review of six months from the date the FDA files the BLA. A BLA can be classified for priority review when the FDA determines the biologic product has the potential to treat a serious or life-threatening condition and, if approved, would be a significant improvement in safety or effectiveness compared to available therapies. The FDA can extend the review process by three or more additional months to consider certain late-submitted information or information intended to clarify information already provided in the submission.

The FDA does not always achieve its performance goal and its review of BLAs can take significantly longer. The FDA reviews the BLA to determine, among other things, whether the proposed product is safe and effective for its intended use, and whether the product is being manufactured in accordance with cGMP. The FDA may refer applications for novel biological products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving a BLA, the FDA will inspect the facilities at which the product is manufactured. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and are adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect the sponsor and one or more clinical sites to assure compliance with GCPs. After the FDA evaluates the BLA and the manufacturing facilities, it issues either an approval letter or a complete response letter. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing, time or information in order for the FDA to reconsider the application. If, or when, those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the BLA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included. The approval process is lengthy and difficult and notwithstanding the submission of any requested additional information, the FDA ultimately may refuse to approve an BLA if applicable regulatory criteria are not satisfied or if the FDA believes additional clinical data or other data and information are required. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than a company interprets the same data.

An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. FDA's approval of a product may be significantly limited to specific disease and dosages or

the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings, or precautions be included in the product labeling. In addition, as a condition of BLA approval, the FDA may require a risk evaluation and mitigation strategy ("REMS"), to help ensure that the benefits of the drug outweigh the potential risks. REMS can include medication guides, communication plans for healthcare professionals, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, restricted distribution, special monitoring, and the use of patient registries. The requirement for REMS can materially affect the potential market and profitability of the drug. Moreover, product approval may require substantial post-approval testing and surveillance to monitor the drug's safety or efficacy. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

Changes to some of the conditions established in an approved application, including changes in indications, labeling, manufacturing processes or facilities, or modification to a REMS, require submission and FDA approval of a new BLA or BLA supplement before the change can be implemented. A BLA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing BLA supplements as it does in reviewing BLAs. Furthermore, should new safety information arise, additional testing, product labeling, or FDA notification may be required.

Sponsors of clinical trials of FDA-regulated products, including biological products, are required to register and disclose certain clinical trial information on the website www.clinicaltrials.gov. Information related to the product, patient population, phase of investigation, trial sites and investigators, and other aspects of a clinical trial are then made public as part of the registration. Sponsors are also obligated to disclose the results of their clinical trials after completion. Disclosure of the results of clinical trials can be delayed in certain circumstances for up to two years after the date of completion of the trial. Competitors may use this publicly available information to gain knowledge regarding the progress of clinical development programs as well as clinical trial design.

Pediatric Information

Under the Pediatric Research Equity Act ("PREA"), BLAs or supplements to BLAs must contain data to assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may, on its own initiative or at the request of the applicant, grant full or partial waivers, or deferrals, for submission of data. Unless otherwise required by regulation, PREA does not apply to any product with orphan product designation except a product with a new active ingredient that is a molecularly targeted cancer product intended for the treatment of an adult cancer and directed at a molecular target determined by FDA to be substantially relevant to the growth or progression of a pediatric cancer.

Fast Track Designation, Accelerated Approval, and Priority Review

A sponsor may seek approval of its product candidate under programs designed to accelerate the FDA's review and approval of BLAs. For example, Fast Track Designation may be granted to a drug intended for treatment of a serious or life-threatening disease or condition that has potential to address unmet medical needs for the disease or condition. The key benefits of fast track designation are more frequent interactions with the FDA and rolling review (submission of portions of an application before the complete marketing application is submitted).

Under Fast Track and the accelerated approval program, the FDA may approve a BLA on the basis of either a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. Post-marketing studies or completion of ongoing studies after marketing approval are required to verify the drug's clinical benefit in relationship to the surrogate endpoint or ultimate outcome in relationship to the clinical benefit.

Based on results of the Phase 3 clinical trial(s) submitted in a BLA, upon the request of an applicant, the FDA may grant the BLA a priority review designation, which sets the target date for FDA action on the application at eight months after the BLA submission. Priority review is granted where there is evidence that the proposed product would be a significant improvement in the safety or effectiveness of the treatment, diagnosis, or prevention of a serious condition. If criteria are not met for priority review, the application is subject to the standard FDA review period of twelve months after NDA submission. Priority review designation does not change the scientific/medical standard for approval or the quality of evidence necessary to support approval.

Additional Controls for Biologics

To help reduce the increased risk of the introduction of adventitious agents, the PHSA emphasizes the importance of manufacturing controls for products whose attributes cannot be precisely defined. The PHSA also provides authority to the FDA to immediately suspend biologics licenses in situations where there exists a danger to public health, to prepare or procure products in the event of shortages and critical public health needs, and to authorize the creation and enforcement of regulations to prevent the introduction or spread of communicable diseases within the United States.

After a BLA is approved, the product may also be subject to official lot release as a condition of approval. As part of the manufacturing process, the manufacturer is required to perform certain tests on each lot of the product before it is released for distribution. If the product is subject to official release by the FDA, the manufacturer submits samples of each lot of product to the FDA together with a release protocol showing a summary of the lot manufacturing history and the results of all of the manufacturer's tests performed on the lot. The FDA may also perform certain confirmatory tests on lots of some products, such as viral vaccines, before allowing the manufacturer to release the lots for distribution. In addition, the FDA conducts laboratory research related to the regulatory standards on the safety, purity, potency, and effectiveness of biological products. As with drugs, after approval of a BLA, biologics manufacturers must address any safety issues that arise, are subject to recalls or a halt in manufacturing, and are subject to periodic inspection after approval.

Post-Approval Regulations

After regulatory approval of a biologic is obtained, a company is required to comply with a number of post-approval requirements. For example, as a condition of approval of a BLA, the FDA may require post-marketing testing, including Phase 4 clinical trials, and surveillance to further assess and monitor the product's safety and effectiveness after commercialization. In addition, as a holder of an approved BLA, a company is required to report adverse reactions and production problems to the FDA, to provide updated safety and efficacy information, and to comply with requirements concerning advertising and promotional labeling for any of its products. Also, quality control and manufacturing procedures must continue to conform to cGMP after approval to assure and preserve the long-term stability of the drug or biological product. The cGMP requirements apply to all stages of the manufacturing process, including the production, processing, sterilization, packaging, labeling, storage and shipment of the drug product. The FDA periodically inspects manufacturing facilities to assess compliance with cGMP, which imposes extensive procedural and substantive record keeping requirements. In addition, changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon a company and any third-party manufacturers that a company may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

Should Neoleukin decide to resume development on its product candidates, it may rely, and may expect to continue to rely, on third parties for the production of clinical and commercial quantities of its product candidates. Future FDA and state inspections may identify compliance issues at its facilities or at the facilities of its contract manufacturers that may disrupt production or distribution, or require substantial resources to correct.

The FDA may withdraw a product approval if compliance with regulatory standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product or the failure to comply with applicable requirements may result in restrictions on a product, manufacturer or holder of an approved BLA, including withdrawal or recall of the product from the market or other voluntary, FDA-initiated or judicial action that could delay or prohibit further marketing. Further, the failure to maintain compliance with regulatory requirements may result in administrative or judicial actions, such as fines, warning or untitled letters, holds on clinical trials, product recalls or seizures, product detention or refusal to permit the import or export of products, refusal to approve pending applications or supplements, restrictions on marketing or manufacturing, injunctions or civil or criminal penalties.

After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA approval. Newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications, and may require the implementation of other risk management measures. Also, new government requirements, including those resulting from new legislation, may be established, or the FDA's policies may change, which could delay or prevent regulatory approval of Neoleukin's products under development.

Advertising and Promotion

The FDA and other federal regulatory agencies closely regulate the marketing and promotion of drugs through, among other things, standards and regulations for direct-to-consumer advertising, communications regarding unapproved uses, industry-sponsored scientific and educational activities, and promotional activities involving the Internet. A product cannot be commercially promoted before it is approved. After approval, product promotion cannot be false or misleading, and product claims must be adequately substantiated. Healthcare providers are permitted to prescribe drugs for "off-label" uses— that is, uses not approved by the FDA and therefore not described in the drug's labeling—because the FDA does not regulate the practice of medicine. However, FDA regulations impose stringent restrictions on manufacturers' communications regarding off-label uses. Broadly speaking, a manufacturer may not promote a drug for off-label use, but may engage in non-promotional, balanced communication regarding off-label use under specified conditions. Failure to comply with applicable FDA requirements and restrictions in this area may subject a company to adverse publicity and enforcement action by the FDA, the U.S. Department of Justice ("DOJ") or the Office of the Inspector General of the Department of Health and Human Services ("HHS") as well as state authorities. This could subject a company to a range of penalties that could have a significant commercial impact, including civil and criminal fines and agreements that materially restrict the manner in which a company promotes or distributes drug products.

Enforcement

During all phases of development (pre- and post-marketing), failure to comply with applicable regulatory requirements may result in administrative or judicial sanctions. These sanctions could include the FDA's imposition of a clinical hold on trials, refusal to approve pending applications, withdrawal of an approval, warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, product detention or refusal to permit the import or export of products, injunctions, fines, civil penalties or criminal prosecution. Any agency or judicial enforcement action could have a material adverse effect on us.

Comparable European and Other International Government Regulation

In addition to FDA regulations in the United States, Neoleukin will be subject to a variety of comparable regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales and distribution of its products. Whether or not Neoleukin obtains FDA approval for a product, it must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries.

Some countries outside of the United States have a similar process that requires the submission of a clinical trial application ("CTA") much like the IND prior to the commencement of human clinical trials. In Europe, for example, a CTA must be submitted to each country's national health authority and an independent ethics committee, much like the FDA and IRB, respectively. Once the CTA is approved in accordance with a country's requirements, clinical trial development may proceed. To obtain regulatory approval to commercialize a new drug under European Union regulatory systems, Neoleukin must submit a marketing authorization application ("MAA"). The MAA is similar to the NDA, with the exception of, among other things, country-specific document requirements and environmental impact assessments.

For other countries outside of the European Union, such as countries in Eastern Europe, Latin America or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, again, the clinical trials are conducted in accordance with GCPs and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

Australia

Conducting clinical trials for therapeutic drug candidates in Australia is subject to regulation by Australian governmental entities. Approval for inclusion in the Australian Register of Therapeutic Goods ("ARTG") is required before a pharmaceutical drug product may be marketed in Australia.

Typically, the process of obtaining approval of a new therapeutic drug product for inclusion in the ARTG requires compilation of clinical trial data. Clinical trials conducted using "unapproved therapeutic goods" in Australia, being those which have not yet been evaluated by the Therapeutic Goods Administration ("TGA") for quality, safety and efficacy must occur pursuant to either the Clinical Trial Notification ("CTN") or Clinical Trial Exemption ("CTX") process.

The CTN process broadly involves:

- completion of pre-clinical laboratory and animal testing;
- submission to a Human Research Ethics Committee ("HREC") of all material relating to the proposed clinical trial, including the trial protocol. The TGA does not review any data relating to the clinical trial;
- the institution or organization at which the trial will be conducted, referred to as the "Approving Authority" gives the final approval for the conduct of the trial at the site, having due regard to the advice from the HREC; and
- CTN trials cannot commence until the trial has been notified to the TGA.

Under the CTX process:

- a sponsor submits an application to conduct a clinical trial to the TGA for evaluation and comment; and
- a sponsor cannot commence a CTX trial until written advice has been received from the TGA regarding the application and approval for the conduct of the trial has been obtained from an ethics committee and the institution at which the trial will be conducted.

In each case, it is required that:

- adequate and well-controlled clinical trials demonstrate the quality, safety and efficacy of the therapeutic product;
- evidence is compiled which demonstrates that the manufacture of the therapeutic drug product complies with the principles of cGMP;

- manufacturing and clinical data is derived to submit to the Australian Committee on Prescription Medicines, which makes recommendations to the TGA as to whether or not to grant approval to include the therapeutic drug product in the ARTG; and
- an ultimate decision is made by the TGA whether to include the therapeutic drug product in the ARTG.

Pre-clinical studies include laboratory evaluation of the therapeutic drug product as well as animal studies to assess the potential safety and efficacy of the drug. The results of the pre-clinical studies form part of the materials submitted to the investigators HREC in the case of a CTN trial and part of the application to the TGA in the case of a CTX trial.

Clinical trials involve administering the investigational product to healthy volunteers or patients under the supervision of a qualified principal investigator. The TGA has developed guidelines for a CTN. Under the CTN process, all material relating to the proposed trial is submitted directly to the HREC of each institution at which the trial is to be conducted. An HREC is an independent review committee set up under guidelines of the Australian National Health and Medical Research Council. The role of an HREC is to ensure the protection of rights, safety and well-being of human subjects involved in a clinical trial by, among other things, reviewing, approving and providing continuing review of trial protocols and amendments, and of the methods and material to be used in obtaining and documenting informed consent of the trial subjects. The TGA is formally notified by submission of a CTN application but does not review the safety of the drug or any aspect of the proposed trial. The approving authority of each institution gives the final approval for the conduct of the clinical trial, having due regard to advice from the HREC. Following approval, responsibility for all aspects of the trial conducted under a CTN application remains with the HREC of each investigator's institution.

The standards for clinical research in Australia are set by the TGA and the National Health and Medical Research Council, and compliance with GCPs is mandatory. Guidelines, such as those promulgated by the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use ("ICH") are required across all fields, including those related to pharmaceutical quality, nonclinical and clinical data requirements and study designs. The basic requirements for preclinical data to support a first-in- human study under ICH guidelines are applicable in Australia. Requirements related to adverse event reporting in Australia are similar to those required in other major jurisdictions.

Other Healthcare, Data Protection, and Privacy Laws and Compliance Requirements

In the United States, Neoleukin's activities are potentially subject to additional regulation and oversight under other healthcare laws by various federal, state and local authorities in addition to the FDA, including the Centers for Medicare & Medicaid Services ("CMS"), other divisions of the HHS (e.g., the Office of Inspector General), the DOJ, and individual U.S. Attorney offices within the DOJ, and state and local governments. These laws include the federal Anti-Kickback Statute, which prohibits, among other things, any person or entity, from knowingly and willfully offering, paying, soliciting or receiving any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or in return for either the referral of an individual, or purchasing, leasing, ordering or arranging for the purchase, lease or order of any good, facility, item or service reimbursable, in whole or part, under Medicare, Medicaid or another federal healthcare program. The term remuneration has been interpreted broadly to include anything of value. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers, and formulary managers on the other. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution. The exceptions and safe harbors are drawn narrowly and practices that involve remuneration that may be alleged to be intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Neoleukin's practices may not in all cases meet all of the criteria for protection under a statutory exception or regulatory safe harbor from federal Anti-Kickback Statute liability. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor, however, does not make the conduct per se illegal under the Anti-Kickback

Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. In addition, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the Affordable Care Act, further strengthened these laws by amending the intent standard under the federal Anti-Kickback Statute and the criminal health care fraud statutes (discussed below), such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, the Affordable Care Act codified case law that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act (discussed below).

Federal civil and criminal false claims laws, including the False Claims Act, and civil monetary penalties laws prohibit, among other things, any person or entity from knowingly presenting, or causing to be presented, a false claim for payment to, or approval by, the federal government, including the Medicare and Medicaid programs, or knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government, including the Medicare and Medicaid programs. As a result of a modification made by the Fraud Enforcement and Recovery Act of 2009, a claim includes “any request or demand” for money or property presented to the U.S. government. Recently, several pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies’ marketing of the product for off-label, and thus, non-covered, uses. In the United States, there are numerous federal and state laws and regulations governing data privacy of personal data and the collection, use, disclosure, and protection of health data, genetic data, consumer data, and children’s data. The federal Health Insurance Portability and Accountability Act of 1996 (“HIPAA”) created additional federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud or to obtain, by means of false or fraudulent pretenses, representations or promises, any money or property owned by, or under the control or custody of, any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up by trick, scheme or device, a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Also, many states have similar fraud and abuse statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor.

HIPAA was amended by the Health Information Technology for Economic and Clinical Health Act (“HITECH”) implementing additional regulations and imposing requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes certain HIPAA standards directly applicable to business associates—independent contractors or agents of covered entities that receive or obtain protected health information in connection with providing a service on behalf of a covered entity. HITECH also created four new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney’s fees and costs associated with pursuing federal civil actions. In addition, some state laws may more broadly govern the privacy and security of health information in specified circumstances, many of which differ from each other in significant ways from HIPPA/HITECH and may not have the same effect, thus complicating compliance efforts.

Neoleukin may also be subject to privacy and data security regulations and legal requirements in the United States, Europe, and throughout the world as it relates to collection, use, disclosure, and protection of personal information that may be broader than as is required under HIPAA or comparable state laws to HIPAA. Many of the state laws enable a state attorney general to bring actions and provide private rights of action to consumers as enforcement mechanisms. There is also heightened sensitivity around certain types of health data, which may be subject to additional protections. Compliance with these laws requires a flexible privacy framework as they are constantly evolving. Failure to comply with these laws and regulations could result in government enforcement

actions and create liability for us (which could include civil and/or criminal penalties), private litigation, and/or adverse publicity. Federal regulators, state attorneys general, and plaintiffs' attorneys have been active in this space. Also, as Neoleukin becomes more dependent on information technologies to conduct its operations, cyber incidents, including deliberate attacks and attempts to gain unauthorized access to computer systems and networks, may increase in frequency and sophistication, and Neoleukin may have legal duties to protect that information and, in the event of a security incident, report to affected individuals and government authority.

Other applicable federal, state, and foreign laws related to privacy and data protection, include, without limitation, the following:

- The Federal Trade Commission ("FTC") attorneys general enforce consumer protection laws that prohibit unfair and deceptive acts and practices, including Section 5 of the FTC Act, which creates standards for the collection, use, dissemination, and security of health-related and other non-health-related personal information. Individual states have comparable unfair and deceptive acts and practices statutes.
- The California Consumer Privacy Act ("CCPA") came into effect in January 2020 and places increased obligations on businesses, including by requiring covered companies to provide new disclosures to California consumers and provide such consumers certain data protection and privacy rights, including the ability to opt-out of certain sales of personal data. A ballot initiative from privacy rights advocates intended to augment and expand the CCPA called the California Privacy Rights Act ("CPRA") was passed in November 2020 and will take effect in January 2023 (with a look back to January 2022), and modifies the CCPA while also creating a new state agency that will be vested with authority to implement and enforce the CCPA and the CPRA.
- Several states have enacted consumer privacy laws that will take effect in 2023, including: (1) the Virginia Consumer Data Protection Act that gives new data protection rights to Virginia residents and imposes additional obligations on controllers and processors of personal data similar in scope to the CCPA; (2) the Colorado Privacy Act, which is set to take effect on July 1, 2023. As of January 2022, fourteen states have pending legislation under review relating to consumer privacy.
- Domestic laws in all 50 states require businesses to provide notice to customers whose personally identifiable information has been disclosed as a result of a data breach.
- European data protection laws will apply to any clinical trial programs Neoleukin conducts or research collaborations Neoleukin enters into in the European Economic Area ("EEA"), the United Kingdom (the "UK") or Switzerland. These include European Union ("EU"), General Data Protection Regulation 2016/679 ("GDPR"), which applies extra-territorially and imposes onerous requirements on controllers (e.g., sponsors) and processors (e.g., contract research organizations, laboratories) of personal data, including, for example: (i) accountability and transparency requirements, and enhanced requirements for obtaining valid consent; (ii) obligations to consider data protection as any new products or services are developed and to limit the amount of personal data processed; (iii) obligations to comply with data protection rights of data subjects; and (iv) reporting of personal data breaches to the supervisory authority without undue delay (and no later than 72 hours). The GDPR and comparable UK and Swiss law also prohibits the international transfer of personal data from the EEA/UK/Switzerland to countries outside of those jurisdictions unless made to a country deemed to have adequate data privacy laws by the European Commission (or as applicable under UK/Swiss authority) or where a data transfer mechanism has been put in place. Further, the GDPR provides that countries in the EEA may establish their own laws and regulations further restricting the processing of certain personal data, including genetic data, biometric data, and health data.
- In Canada, the Personal Information Protection and Electronic Documents Act ("PIPEDA") and similar provincial laws may impose obligations with respect to processing personal information, including health-related information. PIPEDA requires companies to obtain an individual's consent when collecting, using or disclosing that individual's personal information.

- In Australia, the Privacy Act of 1988 is the primary federal legislation applying to protection of privacy in Australia, applicable to both private and public sectors at the Commonwealth level and outlines Data Subject's (as defined in the Privacy Act of 1988) rights, and is supplemented by TGA (Therapeutic Goods Administration).

Additionally, the U.S. federal Physician Payments Sunshine Act (the "Physician Payments Sunshine Act") within the Affordable Care Act, and its implementing regulations, require that certain manufacturers of drugs, devices, biological and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) report annually to CMS information related to certain payments or other transfers of value made or distributed to physicians, physician assistants, certain types of advance practice nurses and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians, physician assistants, certain types of advance practice nurses and teaching hospitals, and applicable manufacturers and group purchasing organizations to report annually certain ownership and investment interests held by physicians and their immediate family members and payments or other "transfers of value" to such physician owners and their immediate family members.

In order to distribute products commercially, Neoleukin must comply with state laws that require the registration of manufacturers and wholesale distributors of pharmaceutical products in a state, including, in some states, manufacturers and distributors who ship products into the state even if such manufacturers or distributors have no place of business within the state. Some states also impose requirements on manufacturers and distributors to establish the pedigree of product in the chain of distribution, including some states that require manufacturers and others to adopt new technology capable of tracking and tracing product as it moves through the distribution chain. Several local, state and foreign governments have enacted legislation requiring pharmaceutical companies to, among other things, establish compliance programs, file periodic reports with the state or foreign government, make periodic public disclosures on sales, marketing, pricing, clinical trials and other activities, and/ or register their sales representatives, as well as to prohibit pharmacies and other healthcare entities from providing specified physician prescribing data to pharmaceutical companies for use in sales and marketing, and to prohibit other specified sales and marketing practices. In addition, Neoleukin's future commercial activities may also be subject to federal and state consumer protection and unfair competition laws.

If Neoleukin's operations are found to be in violation of any of the federal and state healthcare laws described above or any other governmental regulations that apply to us, Neoleukin may be subject to penalties, including without limitation, civil, criminal and administrative penalties, damages, fines, disgorgement, individual imprisonment, exclusion from participation in government programs, such as Medicaid and Medicare, integrity obligations, injunctions, as well as reputational harm, administrative burdens, diminished profits and future earnings and the curtailment or restructuring of its operations, any of which could adversely affect its ability to operate its business and results of operations. To the extent that any of Neoleukin's products are sold in a foreign country, it may be subject to similar foreign laws and regulations, which may include, for instance, anti-fraud and abuse laws, and implementation of corporate compliance programs and reporting of payments or transfers of value to healthcare professionals.

Coverage, Reimbursement, and Pricing

Significant uncertainty exists as to the coverage and reimbursement status of any drug products for which Neoleukin obtains regulatory approval. In the United States and markets in other countries, sales of any products for which Neoleukin receives regulatory approval for commercial sale will depend, in part, on the extent that third-party payors provide coverage, and establish adequate reimbursement levels for such drug products. In the United States, third-party payors include federal healthcare programs, state healthcare programs, managed care providers, private health insurers, and other organizations. The process for determining whether a third-party payor will provide coverage for a drug product may be separate from the process for setting the price of a drug product or for establishing the reimbursement rate that such a payor will pay for the drug product. Third-party payors may limit coverage to specific drug products on an approved list, also known as a formulary, which might

not include all of the FDA-approved drugs for a particular indication. Third-party payors are increasingly challenging the price, examining the medical necessity and reviewing the cost-effectiveness of drug products and medical services, in addition to questioning their safety and efficacy. Neoleukin may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of Neoleukin's products, in addition to the costs required to obtain FDA approvals. NL-201 or its future product candidates may not be considered medically necessary or cost-effective. A payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a drug product does not assure that other payors will also provide coverage for the drug product. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on Neoleukin's investment in product development. If a drug product is reimbursed under a governmental healthcare program, such as Medicare, Medicaid or TRICARE, additional laws and program requirements will apply.

Different pricing and reimbursement schemes exist in other countries. In the European Union, governments influence the price of pharmaceutical products through their pricing and reimbursement rules and control of national healthcare systems that fund a large part of the cost of those products to consumers. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed upon. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost-effectiveness of a particular product candidate to currently available therapies. Other member states allow companies to fix their own prices for drugs, but monitor and control company profits. The downward pressure on healthcare costs in general, particularly prescription drugs, has become more intense. As a result, increasingly high barriers are being erected to the entry of new products. The European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product, or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. Neoleukin may face competition for its product candidates from lower-priced products in foreign countries that have placed price controls on pharmaceutical products. In addition, in some countries, cross-border imports from low-priced markets exert a commercial pressure on pricing within a country.

The marketability of any products for which Neoleukin receives regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide adequate coverage and reimbursement. In addition, an increasing emphasis on managed care in the United States has increased and will continue to increase the pressure on pharmaceutical pricing. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which Neoleukin receives regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Healthcare Reform

Healthcare reforms that have been adopted, and that will be adopted in the future, could result in further reductions in coverage and levels of reimbursement for pharmaceutical products, increases in rebates payable under U.S. government rebate programs and additional downward pressure on pharmaceutical product prices. On September 9, 2021, the Biden Administration published a wide-ranging list of policy proposals, most of which would need to be carried out by Congress, to reduce drug prices and drug payment. The HHS plan includes, among other reform measures, proposals to lower prescription drug prices, including by allowing Medicare to negotiate prices, disincentivizing price increases, and to support market changes that strengthen supply chains, promote biosimilars and generic drugs, and increase price transparency. These initiatives recently culminated in the enactment of the Inflation Reduction Act of 2022 ("IRA") which, among other things, allows the HHS to negotiate the selling price of certain drugs and biologics that CMS reimburses under Medicare Part B and Part D. However, only high-expenditure single-source drugs that have been approved for at least 7 years (11 years for biologics) can be selected by CMS for negotiation, with the negotiated price taking effect two years after the

selection year. The negotiated prices, which will first become effective in 2026, will be capped at a statutory ceiling price. Beginning in January 2023 for Medicare Part B and October 2022 for Medicare Part D, the IRA will also, penalize drug manufacturers that increase prices of Medicare Part B and Part D drugs at a rate greater than the rate of inflation. The IRA permits the Secretary of HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. Manufacturers that fail to comply with the IRA may be subject to various penalties, including civil monetary penalties. The IRA also extends enhanced subsidies for individuals purchasing health insurance coverage in the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the "ACA") marketplace through plan year 2025. These provisions will take effect progressively starting in 2023, although they may be subject to legal challenges.

We cannot predict what healthcare reform initiatives may be adopted in the future. However, Neoleukin anticipates that Congress, state legislatures, and third-party payors may continue to review and assess alternative healthcare delivery and payment systems and may in the future propose and adopt legislation or policy changes or implementations effecting additional fundamental changes in the healthcare delivery system. Neoleukin also expects ongoing initiatives to increase pressure on drug pricing. Any reduction in reimbursement from Medicare and other government programs may result in a similar reduction in payments from private payors.

Anti-Corruption Legislation

The Foreign Corrupt Practices Act ("FCPA") prohibits any U.S. individual or business from paying, offering, or authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with accounting provisions requiring us to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations.

Human Capital Resources

Employees

As of June 30, 2023, Neoleukin had 7 full-time employees. Neoleukin has no collective bargaining agreements with its employees and has not experienced any work stoppages. Neoleukin believes that relations with its employees are good.

Neoleukin's human capital resources objectives include, as applicable, retaining and incentivizing its existing employees. The principal purposes of Neoleukin's equity incentive plans are to attract, retain and motivate selected employees, consultants and directors through the granting of stock-based compensation awards and cash-based performance bonus awards.

Diversity & Inclusion

Neoleukin is committed to creating and maintaining a workplace free from discrimination or harassment on the basis of color, race, sex, national origin, ethnicity, religion, age, disability, sexual orientation, gender identification or expression or any other status protected by applicable law. Neoleukin's management team and employees are expected to exhibit and promote honest, ethical and respectful conduct in the workplace. All employees must adhere to a code of conduct that sets standards for appropriate behavior and are required to attend annual training to prevent, identify, report, and stop any type of discrimination and harassment. Recruitment, hiring, development, training, compensation, and advancement at Neoleukin is based on qualifications, performance, skills and experience without regard to gender, race and ethnicity.

Competitive Pay & Benefits

Neoleukin strives to provide pay, comprehensive benefits, and services that help meet the varying needs of its employees. Neoleukin's total rewards package includes competitive pay; comprehensive healthcare benefits package for employees, with family member healthcare benefits; paid leave and paid holidays; family medical leave and flexible work schedules. In addition, Neoleukin offers every full-time employee the benefit of equity ownership in Neoleukin through stock option grants and an employee stock purchase plan. Neoleukin also sponsors a 401(k) plan that allows full-time employees to contribute a portion of their salary, subject to statutory limits. Neoleukin makes matching cash contributions up to a pre-defined annual maximum contribution per employee per year.

Employee Development & Training

Neoleukin focuses on attracting, retaining, and cultivating talented individuals, and emphasizes employee development and training by providing access to in house development and training sessions. Employees are encouraged to attend scientific, clinical, and technological meetings and conferences and have access to the broad resources they need to be successful.

Safety

The safety, health and wellness of Neoleukin's employees is a top priority. In response to the COVID-19 pandemic, Neoleukin implemented safety protocols based on local and federal guidelines, which are regularly reviewed and revised from time to time based on changes in COVID-19 risks in Neoleukin's community and developing guidance from health officials. During 2022, all of Neoleukin's employees who were not classified as remote workers returned to in-office work with hybrid schedules, and Neoleukin resumed travel to in-person conferences and events. Its business-critical research and development work was able to move forward throughout the COVID-19 pandemic within its employee safety guidelines.

Properties

Neoleukin's headquarters are located at 188 East Blaine Street, Suite 450, Seattle, Washington 98102 where Neoleukin leases 33,300 square feet of office space that it uses for laboratory, discovery, research and development and general and administrative purposes.

Neoleukin also leases approximately 6,272 square feet of office space at 360-1616 Eastlake Avenue East, Seattle, Washington 98102. In December 2022, Neoleukin entered into an agreement to sublease this space to an unrelated third party. Pursuant to the terms of the sublease, Neoleukin is entitled to receive up to $0.5 million in base lease payments. The term of the sublease is through August 2023, with an option by the sublessee to extend such term through November 2023.

Neoleukin believes that its existing facilities are adequate for its near-term needs. Neoleukin believes that suitable additional or alternative space would be available if required in the future on commercially reasonable terms.

Legal Proceedings

From time to time, Neoleukin may become involved in legal proceedings or be subject to claims arising in the ordinary course of business. Neoleukin is not currently a party to any material legal proceedings. Regardless of outcome, such proceedings or claims can have an adverse impact on Neoleukin because of defense and settlement costs, diversion of resources and other factors, and there can be no assurances that favorable outcomes will be obtained.

Corporate Information

On August 8, 2019, Former Neoleukin completed its merger with Aquinox Pharmaceuticals, Inc. ("Aquinox") in accordance with the terms of the Agreement and Plan of Merger dated August 5, 2019 (the "Aquinox Merger Agreement", by and among Aquinox, Former Neoleukin and Apollo Sub, Inc., a wholly-owned subsidiary of Aquinox. Pursuant to the Aquinox Merger Agreement, Apollo Sub, Inc. merged with and into Former Neoleukin, with Former Neoleukin surviving the Aquinox merger as a wholly-owned subsidiary of Aquinox, referred to herein as the Aquinox Merger. Upon completion of the Aquinox Merger, Aquinox was renamed Neoleukin Therapeutics, Inc. and Former Neoleukin was renamed Neoleukin Corporation. On July 31, 2020, Neoleukin sold all issued and outstanding capital stock of its Canadian subsidiary, Aquinox Pharmaceuticals (Canada) Inc. to an unrelated third party. On December 31, 2020, Neoleukin Corporation was merged into Neoleukin Therapeutics, Inc.

NEUROGENE'S BUSINESS

Overview

Despite recent scientific advances in genetics, most neurological diseases, particularly those with devastating consequences to patients, are left untreated. Conventional gene therapy is an attractive potential treatment approach for only a limited number of monogenic diseases due to the challenges caused by the complex biology of neurological diseases and by inherent variable transgene uptake and expression. Neurogene is a clinical-stage biotechnology company committed to overcoming these limitations and turning today's complex devastating neurological diseases into treatable conditions. By harnessing Neurogene's proprietary transgene regulation technology, EXACT ("Expression Attenuation via Construct Tuning"), Neurogene is building a robust and differentiated product portfolio of genetic medicines for rare neurological diseases with high unmet need not otherwise addressable by conventional gene therapy. Neurogene's EXACT approach leverages key scientific breakthroughs, including gene transfer technology, microRNA-based genetic circuits, and adeno-associated virus delivery, and is designed to deliver therapeutic levels of transgene to key areas of the brain that underlie neurological disease pathology.

Neurogene's first clinical-stage program to utilize the EXACT platform is NGN-401, which is under development for the treatment of Rett syndrome, a disease with a patient population that has a significant unmet need, and that ultimately progresses to substantial neurological and physical impairment and premature death. In January 2023, Neurogene received clearance from the U.S. Food and Drug Administration ("FDA") for its investigational new drug ("IND") application for a Phase 1/2 clinical trial of NGN-401 for the treatment of pediatric female patients. The Phase 1/2 clinical trial is an open-label, single-arm, multi-center clinical trial that will assess the safety, tolerability, and efficacy of a single dose of NGN-401 delivered using a one-time intracerebral ventricular ("ICV") procedure, which Neurogene believes is the most suitable route of administration to achieve optimal biodistribution in key regions of the brain. NGN-401 was manufactured at Neurogene's manufacturing facility and clinical-grade product is available for dosing in the Phase 1/2 clinical trial. Neurogene expects preliminary clinical data from the first cohort of patients in this study in the fourth quarter of 2024 and an updated dataset from an expanded number of patients in the second half of 2025.

Neurogene believes that its EXACT platform has broad applicability in complex neurological diseases not otherwise easily addressable by conventional gene therapy. In addition to its Rett syndrome program, Neurogene has multiple early-stage programs in the discovery stage. Neurogene anticipates advancing one program into clinical development in 2025.

In addition to NGN-401, Neurogene is also pursuing a conventional gene therapy program in an ongoing Phase 1/2 clinical trial of NGN-101 for the treatment of CLN5 Batten disease. This patient population has a significant unmet need, and experiences extensive neurological and physical impairment leading to blindness, loss of motor function and early mortality. Neurogene's Phase 1/2 clinical trial of NGN-101 is the first trial to assess the treatment of both neurodegenerative and ocular disease manifestations of Batten disease. A third-party manufacturer produced product for the NGN-101 program to initiate the Phase 1/2 clinical trial. Dosing for this program commenced in the second quarter of 2022, and Neurogene expects preliminary data in the second half of 2024.

Neurogene also established a fully operational current Good Manufacturing Practice ("cGMP") facility in Houston, Texas used to manufacture current and future product for research, toxicology and clinical studies. Neurogene believes that its in-house manufacturing capabilities enable control of product quality and development timelines, and provides strategic pipeline and financial flexibility and clinical-to-commercial continuity.

In December 2020, Neurogene entered into a research collaboration with the University of Edinburgh to support its pipeline development and expansion, and to accelerate scientific innovation to continue to improve upon conventional gene therapy. The University of Edinburgh has a vibrant community of over 500 neuroscience

researchers and is widely recognized as a preeminent center for neuroscience research, especially in areas of neurodegeneration and in neurodevelopmental disorders, such as Rett syndrome. For example, researchers currently in neuroscience centers at the University of Edinburgh conducted the seminal preclinical work for Rett syndrome, including discovery of the MECP2 protein, its function as a transcriptional repressor, developing the first and most widely adopted animal model of Rett syndrome, demonstrating for the first time, the reversibility of phenotypes in any neurodevelopmental disorder as well as the first ever preclinical gene therapy efforts in Rett syndrome. Under the terms of the agreement, this collaboration allows Neurogene the option to in-license product candidates from Dr. Stuart Cobb's laboratory, where he has a dual appointment as a Professor in Translational Neuroscience at the Patrick Wild Centre and Centre for Discovery Brain Sciences and serves as Neurogene's Chief Scientific Officer.

Neurogene's Team and Investors

Neurogene was founded in January 2018 by Dr. Rachel McMinn with the vision of harnessing the power of gene therapy to turn today's devastating neurological diseases into treatable conditions in the future. Neurogene has built an R&D engine through its research collaboration with the University of Edinburgh, which has renowned expertise in neurodevelopmental disorders, and through the leadership of experienced management with extensive expertise in gene therapy manufacturing, has developed chemistry manufacturing and controls ("CMC") capabilities and has established a fully operational cGMP facility. Neurogene is led by a strong management team with deep operational and company building experience as well as significant expertise in research and development in the fields of rare disease and genetic medicine. Neurogene's management team is also comprised of key functions that are required to develop and obtain regulatory approval for novel treatments, including clinical development and regulatory affairs. Neurogene's management team also has a deep background of experience in biopharmaceutical companies, including Amicus, AstraZeneca, Auspex, Avexis, Axovant, Eli Lilly, Harmony Biosciences, ImClone Systems, Intercept Pharmaceuticals, Johnson and Johnson, Lonza, Lundbeck, NPS Pharma, Pharmasset, TEVA, Takeda and Wyeth. Together, Neurogene's team has a track record in the discovery, development, and commercialization of multiple therapies for devastating disorders.

Since inception, Neurogene has raised approximately $245 million of capital from premier life science and mutual fund institutional investors, including funds and accounts managed by Blackrock, Cormorant Asset Management, EcoR1 Capital, Janus Henderson Investors, Redmile Group, Samsara BioCapital, and a healthcare investment fund.

On July 18, 2023, Neurogene announced that it entered into a merger agreement with Neoleukin Therapeutics, Inc., a publicly traded biotechnology company, to create a new public company with the sole focus of advancing Neurogene's pipeline of novel genetic medicines to treat neurological diseases. In support of the merger, Neurogene has secured commitments for a $95 million equity investment led by new and existing healthcare-dedicated specialist and mutual fund institutional investors, including participation from Great Point Partners, EcoR1 Capital, Redmile Group, Samsara BioCapital, Cormorant Asset Management, and a healthcare investment fund. The private placement is expected to close immediately prior to completion of the merger.

Neurogene's Approach

Neurogene has a bold vision to harness the power of gene therapy together with its EXACT technology to turn today's complex devastating neurological diseases into treatable conditions. Fundamental to accomplishing this goal are three capabilities that provide Neurogene with important competitive advantages that it believes support its disciplined product development approach and improve the probability of technical and regulatory success of its product candidates.

1. ***Neurogene's EXACT Technology.*** Neurogene developed the EXACT technology, in collaboration with the University of Edinburgh, with the goal of solving the problem of variable gene expression resulting from the inherent limitations Neurogene believes exist with conventional gene therapy.

Neurogene believes its EXACT technology has the potential to overcome this challenge by widening the otherwise narrow therapeutic window for transgene expression in certain complex neurological diseases. The EXACT technology is predicted to be delivery agnostic and compatible with viral and non-viral delivery platforms.

2. ***Optimal Drug Delivery Approaches to Treat CNS Disorders.*** Neurogene believes in utilizing the most optimal routes of administration to deliver its products that best target the underlying pathophysiology and biology of the disease. Neurogene rigorously studies potential central nervous system ("CNS") indications and their underlying pathologies prior to choosing a candidate and deliberately chooses what Neurogene believes is the most appropriate route of administration to increase the probability of technical and regulatory success.

3. ***Scalable and Flexible Manufacturing.*** Neurogene believes that integrating in-house cGMP manufacturing capabilities enables superior oversight of product quality and greater control of development timelines, allows for strategic pipeline flexibility, and promotes continuity in Neurogene's process from preclinical to clinical to commercial manufacturing in the future. Besides cGMP manufacturing, Neurogene's core development capabilities include quality control, process, analytical, and bioanalytical development labs with experienced teams. Neurogene believes that its in-house manufacturing capabilities also possess the potential to avoid comparability challenges caused by the introduction of significant platform-based changes during the product development phase other gene therapy companies have encountered. Neurogene's in-house manufacturing also provides increased flexibility to manufacture products more efficiently and more cost effectively.

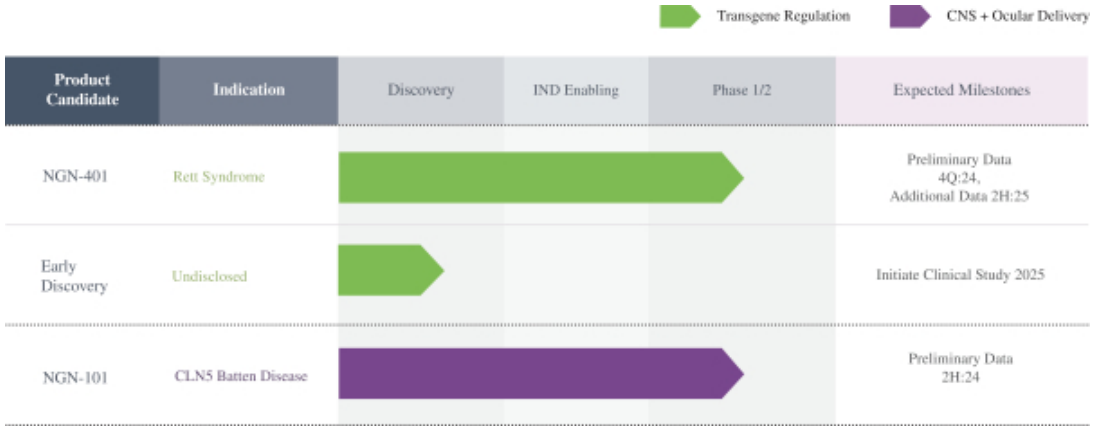
Neurogene's EXACT Technology Acts as a Genetic Thermostat

EXACT's transgene control elements consist of an embedded non-mammalian miRNA, and its complementary recognition sites. This combination is designed to avoid off-target gene regulation. The transgene and the miRNA are co-expressed from the same construct under the control of the same promoter. Because the miRNA and recognition sites are fully complementary with no mismatches, the miRNA-bound transcripts are predicted to be rapidly destroyed, limiting the number of available transgene mRNA copies. These remaining mRNA transcripts are then translated into transgene derived protein. Importantly, the more transgene that is expressed in a given cell, the more miRNA that is produced simultaneously, leading to greater destruction of transcripts. This relationship ultimately creates a genetic thermostat, which attenuates transgene expression, and thereby is designed to avoid the significant toxicity associated with variable gene expression related to conventional gene therapy.

The non-mammalian miRNA regulatory element that is part of an EXACT gene circuit is designed to minimize affinity to human mRNAs, and thereby avoid off-target gene regulation. Neurogene believes such construct design elements differentiate its EXACT technology from other miRNA mediated regulation approaches. The EXACT technology is also predicted to be delivery agnostic and compatible with viral and non-viral delivery platforms.

Using EXACT, Neurogene is advancing a pipeline of therapeutic programs intended to treat complex neurological disorders that it believes will not be suitable for treatment with conventional gene therapy.

Neurogene's Pipeline



NGN-401

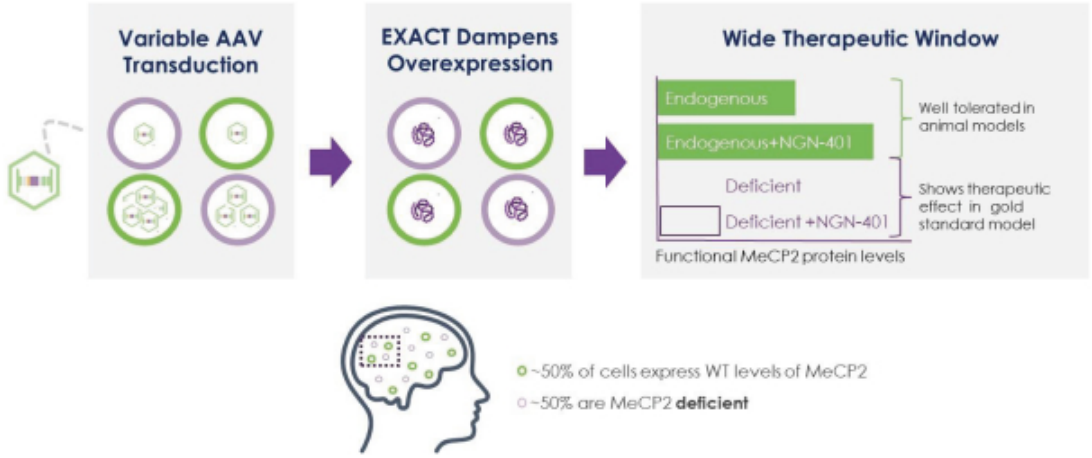
NGN-401 is Neurogene's lead program utilizing the EXACT technology and is packaged in an adeno-associated virus 9 ("AAV9") capsid. In preclinical studies, Neurogene assessed a single ICV administration of NGN-401 in multiple preclinical models, including the male knockout mouse model for efficacy, the female MECP2 mouse model for tolerability, and non-human primates ("NHPs") for biodistribution and toxicity.

Rett syndrome is an X-linked neurodevelopmental disorder caused by a pathogenic mutation in one copy of the MECP2 gene that leads to deficiency of the MeCP2 protein in approximately 50% of cells. MeCP2 is a critical protein responsible for normal function in the brain and other parts of the nervous system. Rett syndrome has an estimated global incidence of 1 in 10,000 to 1 in 15,000 live female births, making it one of the most common genetic causes of developmental and intellectual impairment in females. In the United States, the prevalence of Rett syndrome is estimated to be approximately 6,000 to 9,000 patients. The estimated prevalence in the European Union ("EU") and select foreign countries is estimated in total to be greater than in the United States. Rett syndrome in females is marked by several cardinal clinical features, including significant impairments in communication (for example, an inability to communicate verbally or with their hands), gross and fine motor function, autonomic function, and a range of other disease manifestations. While there are treatments approved to treat Rett syndrome, there remains a significant unmet need for new treatment options that target the root cause of the disease.

Rett syndrome as modeled in mice has been shown to be inducible and reversible, demonstrating that the MECP2 gene is critical throughout lifespan and offering the prospect of disease reversibility in humans. However, gene replacement therapy is not straightforward for Rett syndrome because too little MeCP2 causes Rett syndrome, while too much MeCP2 causes a similarly devastating disease known as MECP2 duplication syndrome. This MECP2 gene sensitivity results in a narrow therapeutic window for gene therapy in Rett

syndrome. Therefore, Neurogene believes the goal in developing a gene replacement therapy for Rett syndrome is to supply enough MeCP2 to deficient cells, without causing toxicity to healthy cells. Achieving this goal requires precise control over the level of MECP2 expression on a cell-by-cell basis. Neurogene designed EXACT with achieving this goal in mind, and has selected Rett syndrome as the indication for Neurogene's first EXACT product candidate.

EXACT Technology for Rett Syndrome



As shown in the left-hand panel above, an inherent limitation of AAV administration is that it produces variable levels of transduction across cells. Despite this variability, Neurogene's preclinical data demonstrate the potential of EXACT to normalize the levels of MeCP2 protein (middle panel). The right-hand panel illustrates the aspiration of EXACT for Rett syndrome—to deliver transgene levels of functional MeCP2 that, when expressed on top of endogenous levels, can be well tolerated, while simultaneously delivering a therapeutically relevant level of MeCP2 to deficient cells to allow for efficacy. Neurogene believes its EXACT technology has the potential to overcome the narrow therapeutic window for gene therapy in Rett syndrome and offers the possibility of making gene replacement a viable modality to treat complex disorders such as Rett syndrome.

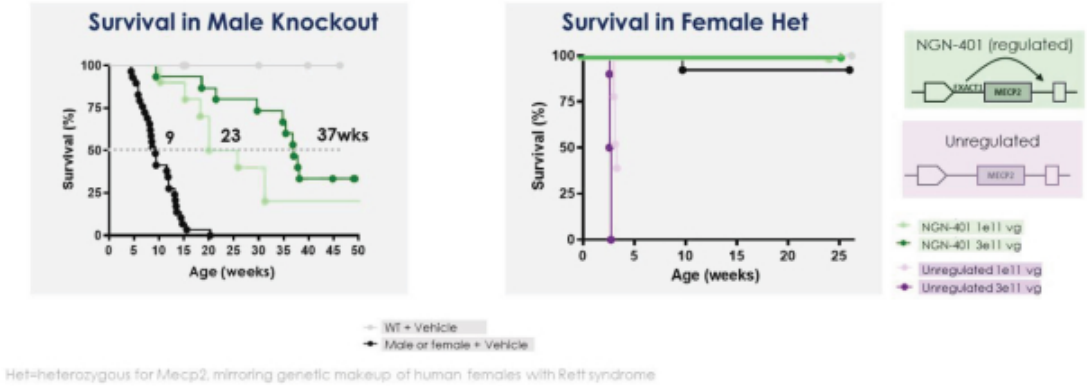
NGN-401 Product Design

NGN-401 contains the EXACT regulatory elements shown above, which regulate the expression of the full-length human MECP2 gene. Expression is driven by a mammalian promoter that has been used in gene therapy clinical trials. This genetic construct is packaged into an AAV9 capsid.

NGN-401 Preclinical Data in Rett Syndrome Mouse Models

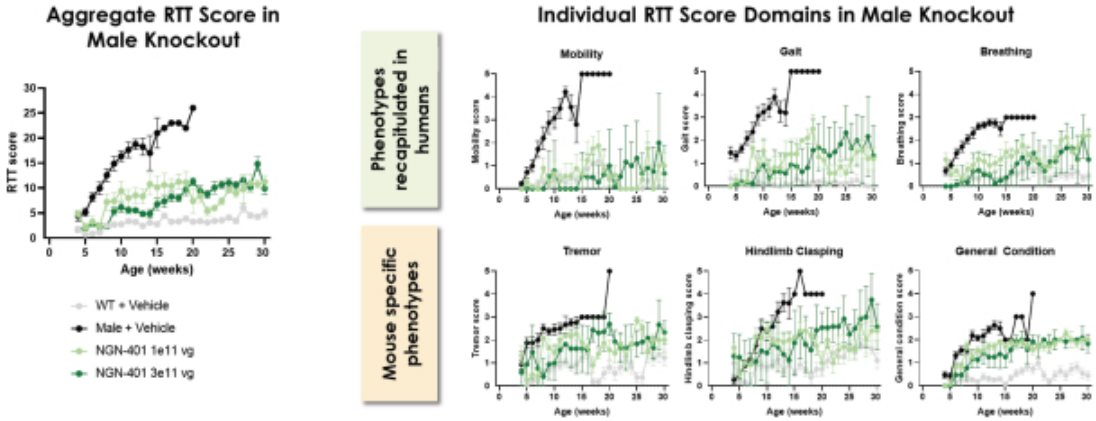
The male knockout mouse is the gold standard for evaluating efficacy in Rett syndrome because it has a robust phenotype that expresses certain cardinal features of Rett syndrome, including motor, gait, and breathing abnormalities. This model has a more severe disease course compared to human females with Rett syndrome, because 100% of male mouse cells are MECP2 deficient. In contrast, human females have MECP2 deficiency in approximately 50% of cells, due to a mosaic pattern of X-inactivation whereby the healthy MECP2 copy or the

pathogenic copy is randomly selected to be silenced. Signs of disease in the male mouse model have been documented in the early post-natal period, with mice beginning to die or reach the humane endpoint as early as four to five weeks of life, with a median survival of approximately nine weeks.



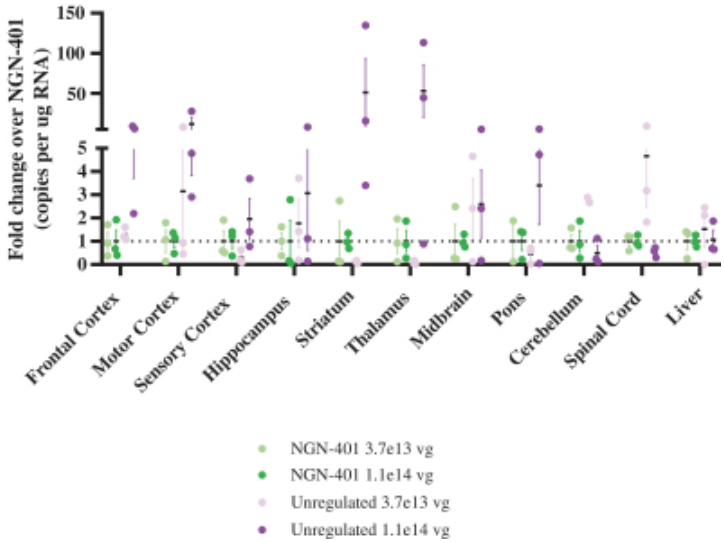
In the preclinical study described above, male knockout mice were administered a one-time administration of NGN-401 in the early postnatal period using an ICV procedure with either vehicle, or product doses of 1e11 or 3e11 vector genomes (“vg”) per mouse. The profile for NGN-401 in this mouse model demonstrated a dose-dependent improvement in survival (shown in the left-hand panel above) with concomitant improvements in Rett-syndrome-like phenotypes compared to vehicle treated control animals.

To test tolerability, Neurogene evaluated the same doses of NGN-401 that demonstrated dose-dependent improvement in the male mouse model in a female mouse model (shown in the right-hand panel above). These female mice are genotypically comparable to human female patients, allowing Neurogene to demonstrate tolerability where approximately 50% of cells have normal levels of MeCP2 expression. NGN-401 (shown in green above) was well tolerated, with no negative effects on survival. In comparison, when Neurogene conducted a similar experiment using conventional gene therapy (depicted in purple above), which Neurogene refers to as “unregulated,” these mice experienced immediate toxicity and died or reached the humane endpoint within two to three weeks. These deaths were associated with significant overexpression of MECP2, demonstrating the importance of controlling MeCP2 expression to a tolerable level, which Neurogene believes the EXACT technology is able to accomplish.

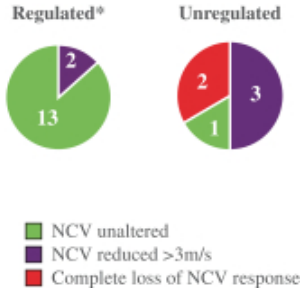


In the male knockout mouse model, phenotypic improvement was measured using an observational scoring system evaluating six disease phenotypes (referred to as the "RTT Score"). The aggregate observational score, shown in the left panel above, was improved with NGN-401 treatment, with the greatest amelioration of symptoms observed in translationally relevant domains of mobility, gait, and breathing (shown in the top right panel above).

NGN-401 Preclinical Wild-type Non-Human Primate 30-day Data



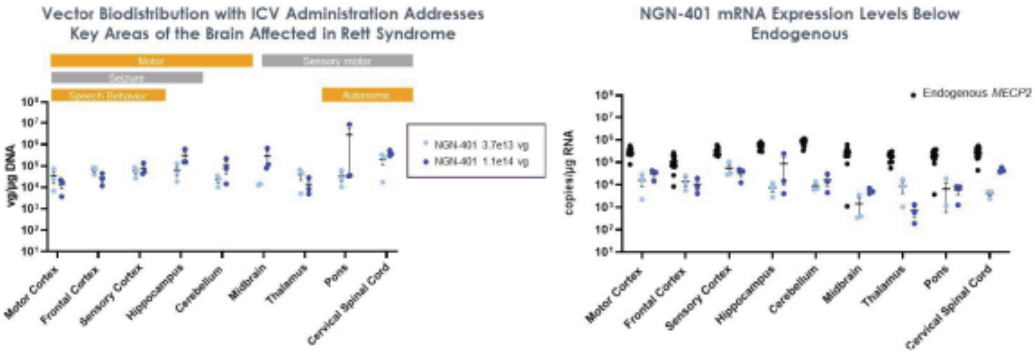
In an NHP study shown in the figure above, Neurogene evaluated NGN-401 and unregulated conventional gene therapy constructs that do not contain EXACT regulatory elements. The first NHP study was a 30-day expression and tolerability study, comparing the same doses of NGN-401 to the unregulated control. Results from this study show tight mRNA expression levels of NGN-401, with greater and more variable expression for the unregulated vector.



* Regulated includes NGN-401 and another EXACT vector; data at 30 days

NCV: nerve conduction velocity

These higher levels of MeCP2 in the unregulated treatment group were associated with early signs of toxicity in NHPs, shown by reduced or complete loss of sural nerve function as measured by nerve conduction velocity in most animals.



Neurogene also evaluated vector biodistribution and MECP2 mRNA for NGN-401 treated animals to assess how biodistribution and expression maps to key brain regions underlying Rett syndrome pathobiology in NHPs. Neurogene found that NGN-401 viral biodistribution tracks to key areas of the brain and spinal cord that underlie cardinal features of Rett syndrome, including speech, motor and autonomic function (shown in the left-hand panel above). In addition, Neurogene observed significant levels of transgene-derived MECP2 mRNA in key brain regions (shown in the right-hand panel above), supporting the prospect for therapeutic relevance to cardinal features of human disease and is consistent with the phenotypic improvements observed in the male knockout mouse model. Neurogene also observed that MECP2 mRNA levels derived from NGN-401 were below endogenous wild type NHP MECP2 levels, underscoring the potential safety profile of dampened MECP2 expression in these animals.

In a second NHP study, Neurogene conducted a Good Laboratory Practice (“GLP”) toxicology study with cohorts at two doses with endpoints at three and six months. This study assessed but found no signs or symptoms of MECP2 overexpression with a >4x safety margin from Neurogene’s starting clinical dose. Instead, Neurogene observed a typical profile for AAV9 administered product, with minimal to slight microscopic findings in the dorsal root ganglion (“DRG”), spinal cord, brain, and peripheral nerves. These observations were not dose dependent and there were no related clinical or electrophysiological observations. Early transient aminotransferase elevations were also observed, which returned to baseline or near baseline values within approximately the first three weeks without intervention. Based on these findings, the high dose cohort was considered the no-observed adverse effect level (“NOAEL”). Both of these observations (liver and DRG) are commonly observed in NHP models with AAV administration. While liver enzyme elevations have been connected with liver toxicity for certain gene therapy products in humans, these findings are typically resolved in humans without clinical sequalae. Neurogene does not believe that DRG toxicity has been reported in humans in connection with AAV administration.

NGN-401 Phase 1/2 Clinical Trial

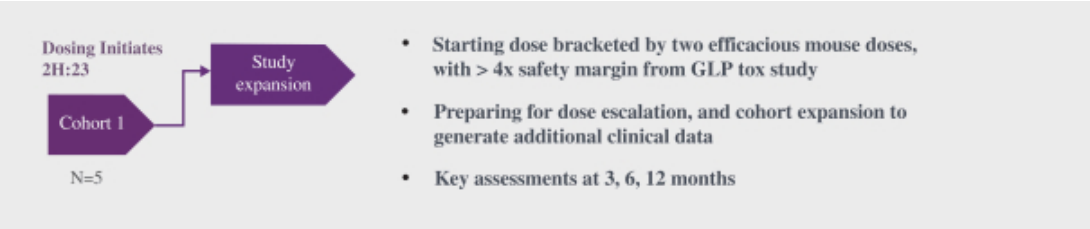
Based on its preclinical data, Neurogene is advancing NGN-401 for the treatment of female children ages four to 10 years old with Rett syndrome. Neurogene received clearance for its IND application from the FDA in January 2023, with enrollment advancing as planned in the second half of 2023.

The FDA generally requires sponsors to demonstrate safety in adults prior to advancing into children. To proceed to clinical testing in children under the FDA’s regulations on Additional Safeguards for Children in Clinical Investigations (21 CFR Part 50 Subpart D), Neurogene successfully demonstrated to the FDA that it had

a strong scientific rationale, a positive benefit-risk framework, and preclinical evidence that support a prospect of direct benefit in children with Rett syndrome. Key pillars of that preclinical evidence are:

- NGN-401 has demonstrated its ability to control MeCP2 transgene levels in preclinical models, as is evidenced by the strong therapeutic effect and a favorable safety profile;
- There is a rational translational foundation, as Neurogene's preclinical data show robust MeCP2 expression in key areas of the brain underlying Rett pathology;
- Neurogene believes it is maximizing the therapeutic potential of its product by delivering the highly conserved full-length gene; and
- At and above clinically relevant doses, there has been no observed transgene toxicity or any off-target effects, indicating a favorable safety profile.

Neurogene believes this path may maximize its potential to determine efficacy signals early in the development process, potentially accelerating Neurogene's ability to generate relevant clinical data.



The Phase 1/2 clinical trial is an open-label, single-arm, multi-center clinical trial that is planned to assess the safety, tolerability, and efficacy of a single dose of NGN-401 delivered using a one-time ICV procedure in female pediatric patients with Rett syndrome.

The first cohort of the dose escalation portion of the study is planned to enroll a total of five pediatric females, ages four to 10 years old, with a confirmed diagnosis of classic Rett syndrome and a documented disease-causing mutation in the MECP2 gene. Patients must also have a Clinical Global Impression-Severity score of four to six. In addition, there are specific inclusion criteria related to trofinetide, a medicine approved by the FDA for Rett syndrome in March 2023. Patients enrolling in the Phase 1/2 clinical trial may be trofinetide naïve or trofinetide failures, with "failures" defined as having tried trofinetide and discontinued for tolerability or lack of efficacy or other reasons. Following NGN-401 dosing, trofinetide may be initiated after a specified time period and with the support of the treating clinician. Key assessments in the NGN-401 clinical trial will be taken at three, six, and 12 months, with efficacy assessments of interest including autonomic monitoring, hand function, communication, and gross motor function.

The starting clinical dose for NGN-401 was selected based on the two mouse doses that demonstrated a therapeutic effect and favorable safety profile in the preclinical mouse models, and deriving a relevant human dose that is predicted to show a therapeutic benefit. In addition, Neurogene is preparing for dose escalation and expansion of the trial. Dose escalation will be determined following human safety data, and taking into account the expected safety margin of >4x from Neurogene's GLP toxicology study in NHPs.

Neurogene plans to expand the Phase 1/2 clinical trial to geographies outside the United States in the future. Neurogene expects to report preliminary clinical data from the first cohort of patients from the Phase 1/2 clinical trial in the fourth quarter of 2024 and an updated dataset from an expanded number of patients in the second half of 2025. The FDA generally requires a stagger in between patient dosing and the adjudication of safety by an independent data safety monitoring board before Neurogene can proceed to the next patient dosed in a gene

therapy clinical trial, and this stagger applies to all of patients in the first cohort. Therefore, Neurogene expects that the 2025 dataset may have more extensive follow up on these first few patients, as well an expanded dataset from additional patients.

EXACT Discovery Pipeline

Neurogene has a skilled team of scientists, both internally and in conjunction with Neurogene's collaboration with the University of Edinburgh, with extensive gene therapy experience. Neurogene's team is focused on expanding its transgene regulation pipeline, and leveraging EXACT beyond its NGN-401 clinical candidate for Rett syndrome. Neurogene expects its ongoing discovery efforts will support its ability to nominate one new development candidate for a commercially attractive indication for entry into the clinic in 2025.

NGN-101

NGN-101 is Neurogene's development candidate for the treatment of CLN5 Batten disease. NGN-101 contains conventional gene therapy elements designed to deliver the CLN5 gene and is packaged in an AAV9 capsid.

In preclinical studies, Neurogene assessed a single ICV administration, a single intravitreal ("IVT") administration, or the combination of ICV and IVT dosing of NGN-101 in a CLN5 knockout sheep model for efficacy and NHPs for biodistribution and toxicity.

Batten disease is a family of rare neurodegenerative diseases caused by pathogenic changes in one of a series of genes that results in the accumulation of toxic deposits across multiple organ systems. CLN5 Batten disease is a rare, pediatric-onset and rapidly progressive condition caused by a pathogenic mutation in the CLN5 gene, leading to loss of function. It is characterized by loss of vision, seizures, and progressive decline in intellectual and motor capabilities beginning in childhood, leading to substantial impairments and early mortality. The incidence of Batten disease in estimated to be 1:100,000, with CLN5 Batten disease a small subset.

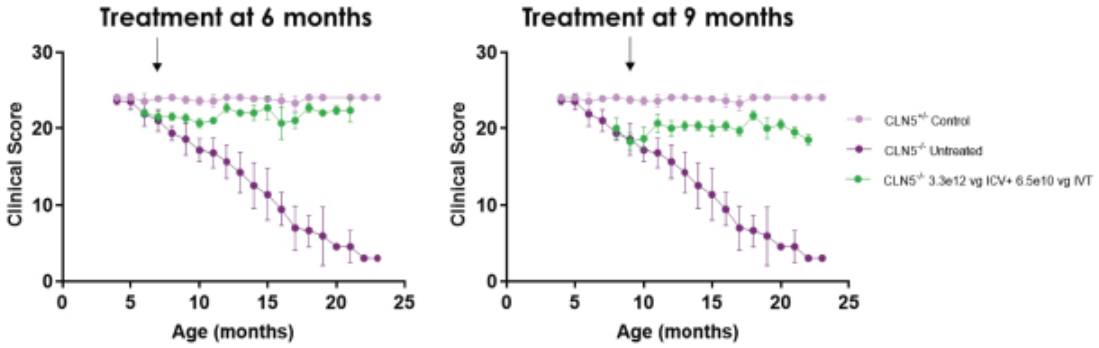
Currently, CLN5 Batten disease has no approved disease-specific treatment options.

Preclinical CLN5 Data in Sheep Disease Model

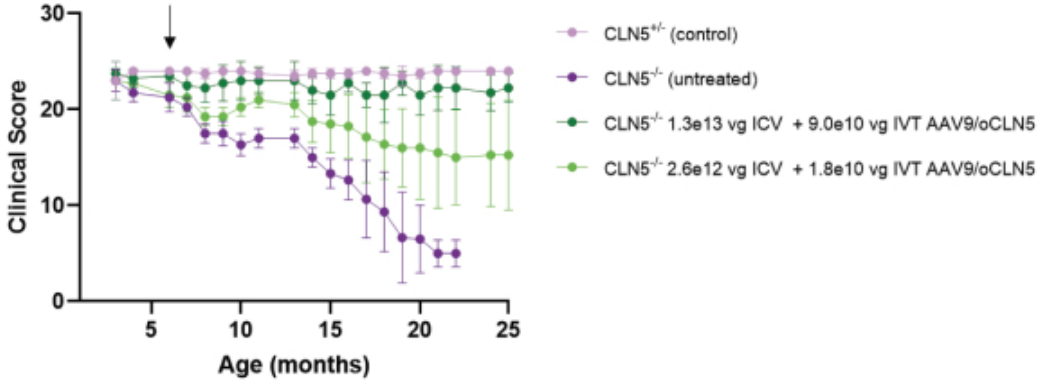
There is a naturally occurring Borderdale sheep model that is deficient in the CLN5 protein and shows several of the symptoms found in human CLN5 Batten disease, including progressive vision loss, motor and gait abnormalities, and premature death. These animals typically reach the humane endpoint by 16-19 months, with a maximal life expectancy of 22 months. A clinical scoring system was developed by Lincoln University comprising 10 physical domains to evaluate the disease phenotype of these sheep, although only six domains developed a progressive change over time in the disease model. Data for a modified ovine Batten disease rating scale, consisting of the cumulative score of these six domains, are shown below, with a score of 24 reflecting a phenotypically normal animal.

In Neurogene's preclinical study, sheep were administered a one-time IVT administration alone, ICV administration alone, or combination of IVT and ICV administration of an AAV9 vector containing an ovine version of the CLN5 transgene (AAV9/oCLN5). AAV9/oCLN5 slowed or halted key features of disease progression in the naturally occurring CLN5-deficient sheep model. While IVT administration alone preserved retinal layers within the eye, sheep ultimately succumbed to neurological disease and did not experience a survival benefit. In comparison, ICV administration alone significantly extended survival, but sheep experienced

vision loss and blindness and subsequently experienced loss of function in other domains. Animals treated with concurrent administration employing both ICV and IVT routes of delivery experienced the most robust survival and phenotypic benefits, including preservation of translationally relevant phenotypes—visual and motor function.

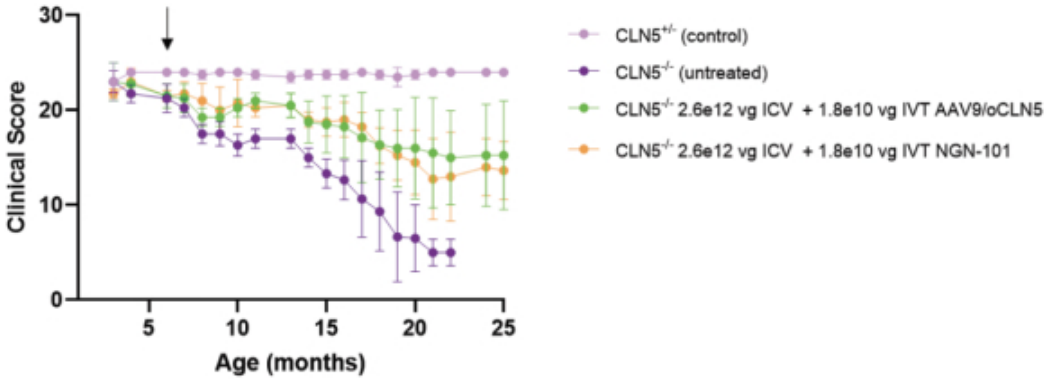


Animals that received AAV9/oCLN5 at either an early symptomatic (six months of age) or advanced symptomatic (nine months of age) disease state exhibited delayed disease progression and stabilized clinical function, demonstrated above in the clinical scoring data. AAV9/oCLN5 treatment preserved vision in the treated eye and mitigated declines in body weight, intracranial volume, and retinal function, as well as ameliorated brain and retinal pathology.



Neurogene conducted an additional study (shown above) in the ovine model of CLN5 disease to evaluate an approximately 4x higher ICV dose of AAV9/oCLN5 administered at an early symptomatic disease stage (six months of age), as well as to further explore IVT dosing. Data in this preclinical model demonstrated that the 4x higher ICV dose of AAV9/oCLN5 along with a modest IVT dose increase was generally well tolerated in this disease model, and demonstrated an improved therapeutic effect as compared to the cohort of ovine animals receiving a similar ICV dose as previously tested, and approximately only 30% of the IVT dose. These data provide additional support for Neurogene's clinical strategy for dose escalation in its ongoing Phase 1/2 clinical trial of NGN-101.

Bridging Sheep Study Comparing Ovine and Human CLN5 Transgene Administration



Neurogene also conducted a bridging sheep efficacy study that compared equivalent doses of AAV9/oCLN5 to NGN-101, the clinical product candidate containing the human CLN5 transgene. Neurogene found the phenotypical improvements observed in the CLN5 knockout sheep were similar between the two transgenes.

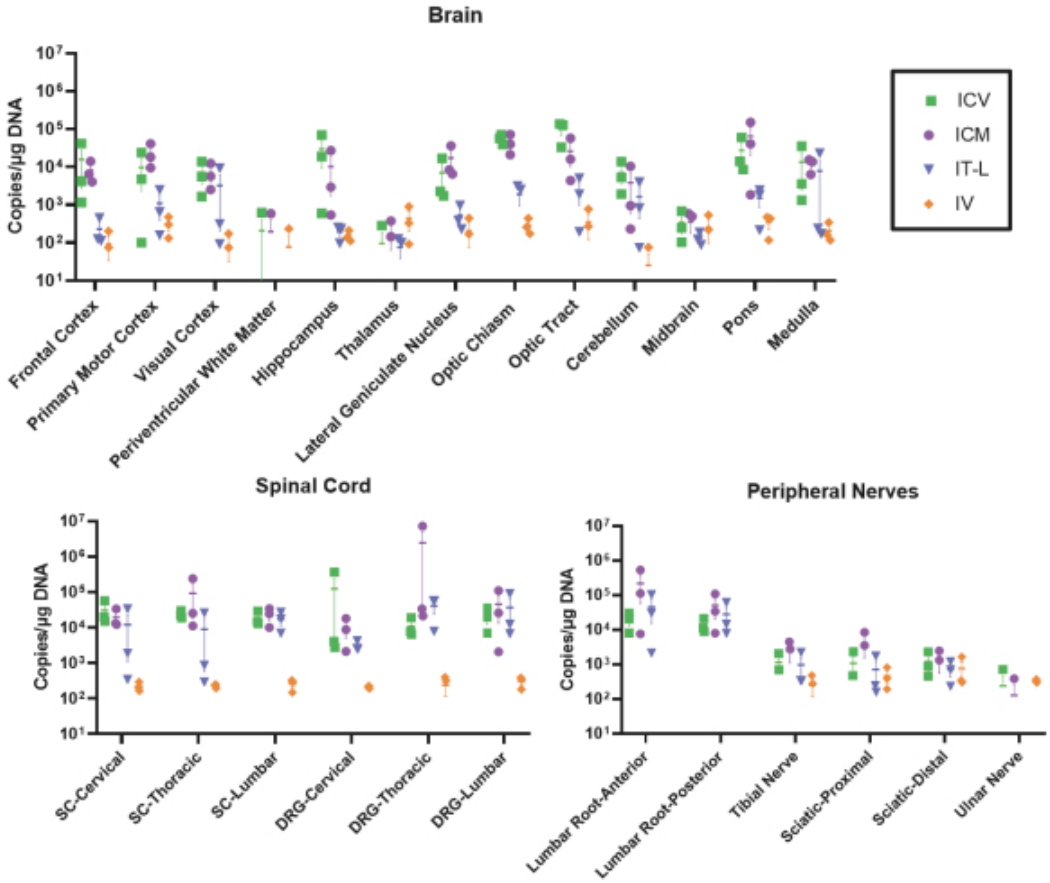
Neurogene conducted a GLP toxicology and biodistribution study with NGN-101 in NHPs with three- and six-month timepoints. NGN-101 was generally well-tolerated in this study. Non-adverse transient aminotransferase elevations were observed, which were not associated with anatomic pathology findings. In addition, one animal inadvertently dosed with a two-fold higher dose than Neurogene's highest planned IVT clinical dose experienced a moderately severe intraocular inflammatory response, which subsided with anti-inflammatory treatment. Based on these findings, the high dose cohort was considered the NOAEL.

Neurogene's Phase 1/2 clinical trial of NGN-101, which it believes is the first trial to assess the treatment of both neurodegenerative and ocular disease manifestations of Batten disease using gene therapy, is currently ongoing. Dosing of Cohort 1 is complete and Neurogene is currently enrolling a higher dose cohort. The dose selection was based on sheep studies, and key efficacy assessments occur at six and 12 months, with additional assessments every six months. Neurogene expects to report preliminary clinical data from the trial in the second half of 2024.

Neurogene is planning regulatory interactions with the FDA to clearly define a potential registration path for Neurogene's NGN-101 product candidate for the CLN5 Batten disease program. Neurogene plans to have a CMC meeting with the FDA in the second half of 2023, where Neurogene will seek specific guidance on potency assay requirements for this program. In addition, Neurogene plans to have a clinical strategy meeting with FDA in the first half of 2024 and believes Neurogene will gain a better understanding of the level of clinical evidence required to support a future approval.

Utilizing Optimal Drug Delivery to Treat CNS Disorders

To increase the probability of technical and regulatory success, Neurogene believes in utilizing the most optimal route of administration for AAV9 that best targets the underlying pathophysiology and biology of the disease.



The pathobiology of both Rett syndrome and CLN5 Batten disease involves structures across the nervous system. Therefore, it was critical to Neurogene to evaluate the optimal route of administration to achieve broad AAV9 distribution to key regions relevant for disease. To better appreciate each route of administration and to take a rational approach to choosing the optimal route of administration for Neurogene's programs, Neurogene conducted a one-month study to evaluate a single total dose of an AAV9 vector containing a human CLN5 transgene via unilateral ICV, intracisternal magna ("ICM"), intrathecal lumbar ("IT-L"), or IV administration in NHPs. Both ICV and ICM administration, shown in green and purple above, respectively, generated comparable broad biodistribution throughout the brain and spinal cord. When compared to ICV and ICM delivery, IT-L delivery (shown in blue above) achieved distribution that was similar in the spinal cord but approximately 10 to 100 times lower in key regions of the brain underlying Rett syndrome and CLN5 Batten disease pathology, including the cortex, hippocampus, and areas of the brain stem (pons and medulla). All intra-cerebrospinal fluid ("CSF") delivery routes targeted the peripheral nerves with similar efficiency. IV administration of an equivalent dose, shown in orange, resulted in CNS biodistribution that was one to two orders of magnitude lower relative to the intra-CSF delivery routes. These data supported the selection of the ICV route of administration for the NGN-401 and NGN-101 programs.

Intellectual Property

Neurogene actively seeks to protect its proprietary technology, inventions, and other intellectual property that is commercially important to the development of its business by a variety of means, including seeking, maintaining, and defending patent rights, whether developed internally or licensed from third parties. In particular, Neurogene's patent strategy includes the filing of patent applications covering regulatory elements embodied by its EXACT technology and its unique gene sequences. Neurogene also may rely on trade secrets and know-how relating to its proprietary technology platform, including its EXACT platform technology, on continuing technological innovation and on in-licensing opportunities that may be important for the development of its business to develop, strengthen and maintain the strength of its position in the field of gene therapy. Neurogene also intends to seek patent protection or rely upon trade secret rights to protect other technologies that it may use to discover and validate targets, and that it may use to manufacture and develop novel gene therapy products. Neurogene is a party to license agreements that give it rights to use specific technologies in its gene therapy products and in manufacturing its products. Additional regulatory protection may also be afforded through data exclusivity, market exclusivity and patent term extensions where available.

As of August 1, 2023, Neurogene owns 24 patent applications, including Patent Cooperation Treaty ("PCT"), U.S., and international patent applications, and one pending U.S. provisional application. Neurogene's policy is to file patent applications to protect technology, inventions and improvements to inventions that may be commercially important to the development of its business. Patent applications and patents directed to specific product candidates are summarized below:

EXACT Technology

Neurogene in-licenses from the University of Edinburgh 12 pending patent applications worldwide directed to regulatory control of transgene expression. Any patents based on these applications, if issued, are expected to expire in 2041, without taking into account any possible patent term adjustment, regulatory extensions, or terminal disclaimers, and assuming payment of all annuities and/or maintenance fees.

NGN-401 for Rett Syndrome

Neurogene also in-licenses from the University of Edinburgh one pending PCT international patent application worldwide directed to recombinant MECP2 therapeutic constructs and methods for treating Rett syndrome and related conditions. Any patents based on this application, if issued, are expected to expire in 2043, without taking into account any possible patent term adjustment, regulatory extensions, or terminal disclaimers, and assuming payment of all annuities and/or maintenance fees.

NGN-101 for CLN5 Batten Disease

Neurogene in-licenses from the University of North Carolina at Chapel Hill four pending patent applications worldwide directed to an optimized CLN5 therapeutic construct for treating Batten Disease. Any patents based on these applications, if issued, are expected to expire in 2039, without taking into account any possible patent term adjustment, regulatory extensions, or terminal disclaimers, and assuming payment of all annuities and/or maintenance fees.

Individual patents extend for varying periods depending on the date of filing of the patent application or the date of patent issuance and the legal term of patents in the countries in which they are obtained. Generally, patents issued for regularly-filed applications in the United States are effective for 20 years from the earliest effective non-provisional filing date. In addition, in certain instances, a patent term can be extended to recapture a portion of the U.S. Patent and Trademark Office's ("USPTO") delay in issuing the patent as well as a portion of the term effectively lost as a result of the FDA regulatory review period. However, as to the FDA component, the restoration period cannot be longer than five years and the total patent term including the restoration period must

not exceed 14 years following FDA approval. The duration of foreign patents varies in accordance with provisions of applicable local law, but typically is also 20 years from the earliest effective filing date. The actual protection afforded by a patent varies on a product-by-product basis, from country to country, and depends upon many factors, including the type of patent, the scope of its coverage, the availability of regulatory-related extensions, the availability of legal remedies in a particular country and the validity and enforceability of the patent.

Neurogene also protects its trade secrets and other proprietary technology and processes, in part, by confidentiality and invention assignment agreements with its employees, consultants, scientific advisors and other contractors. These agreements may be breached, and Neurogene may not have adequate remedies for breach. In addition, Neurogene's trade secrets may otherwise become known or be independently discovered by competitors. To the extent that its employees, consultants, scientific advisors, or other contractors use intellectual property owned by others in their work for Neurogene, disputes may arise as to the rights in related or resulting know-how and inventions.

Neurogene's commercial success will also depend in part on not infringing the proprietary rights of third parties. It is uncertain whether the issuance of any third-party patent would require Neurogene to alter its development or commercial strategies, alter its drugs or processes, obtain licenses, or cease certain activities. Neurogene's breach of any license agreements or failure to obtain a license to proprietary rights that it may require to develop or commercialize its future drugs may have a material adverse impact on its business, operations and financial condition.

Commercial

Should any of Neurogene's product candidates be approved for commercialization, it intends to develop a plan to commercialize them in the United States and other key markets, through internal infrastructure and/or external partnerships in a manner that will enable Neurogene to realize the full commercial value of its programs. Given the company's stage of development, Neurogene has not yet established a commercial organization or distribution capabilities. Neurogene currently holds worldwide development and commercialization rights, including through exclusive licenses, to all of its product candidates.

Manufacturing

Neurogene's fully-operational, cGMP manufacturing facility is located in Houston, Texas and includes process and analytical development labs. The site is approximately 42,000 square ft, with 6,000 square ft of cleanroom space dedicated to cGMP production of clinical product. Neurogene's manufacturing facility is also designed for commercial-grade drug product in the future (if regulatory approval is obtained). The facility includes Neurogene's experienced team of approximately 36 employees that support process development, analytical development, quality assurance, quality control, manufacturing, supply chain, and maintenance. In addition to Neurogene's process and analytical development capabilities, it has established a bioanalytical group that allows Neurogene to analyze vector biodistribution, mRNA expression, and protein expression from in-vivo preclinical studies. Neurogene believes this internal capability provides it with a lower cost structure and greater control over timelines driven by execution of Neurogene's corporate priorities through dedicated oversight by Neurogene employees. Neurogene has produced nonclinical material to support its preclinical studies, including product candidates manufactured for use for IND-enabling studies.

Neurogene believes that its in-house manufacturing capabilities enable Neurogene to control product quality and development timelines, allow for strategic pipeline flexibility, and provide Neurogene with continuity in its process from preclinical to clinical to commercial manufacturing in the future (if regulatory approval is obtained). With in-house manufacturing capabilities designed to transition from preclinical to clinical-stage trials, beginning with NGN-401 for the treatment of Rett syndrome, Neurogene believes it is well positioned to avoid future product comparability challenges that other gene therapy companies have faced. NGN-401 has been

successfully manufactured at Neurogene's manufacturing facility and clinical-grade product is available for dosing in Neurogene's ongoing Phase 1/2 clinical trial for female children with Rett syndrome. Product for the NGN-101 CLN5 Batten disease program was produced by a third-party manufacturer. Neurogene expects to manufacture in its facility subsequent cGMP campaigns for NGN-401, in addition to those for Neurogene's early discovery pipeline. Neurogene believes internalizing its manufacturing capabilities has two significant financial advantages: (1) it provides Neurogene with the potential to have maximum flexibility to manufacture product candidates at a reduced cost and (2) it affords Neurogene greater control over CMC investments as programs progress through development.

The manufacturing facility is designed to be flexible, scalable, and a multi-product facility that can support two major scalable AAV production processes: transient transfection process using mammalian cells (HEK293) and an insect cell (Sf9) baculovirus based AAV production system. The processing suites are fitted with equipment that supports single-use technology, which Neurogene believes reduces the risk of cross-contamination and allows for multiple products to be manufactured utilizing either process. In addition, Neurogene designed the fill-finish suite to allow for final product to be vialed in-house, which Neurogene believes eliminates the need for a contract manufacturer and excessive shipping of product between facilities. AAV9 vector intended for IND-enabling studies is generated utilizing the same platform process (either HEK293 or Sf9 based) that is expected to be used in the clinic up to a 50L scale in Neurogene's process development labs. Based on current program needs, the cGMP platform processes are executed at a 200L scale, and Neurogene believes it has the ability to scale up or scale out as material needs increase.

Competition

The biotechnology and pharmaceutical industries generally, and the gene therapy field specifically, are characterized by rapid evolution of technologies, competition and strong defense of intellectual property. Any product candidates that Neurogene develops and commercializes will face competition from existing therapies and new therapies that may become available in the future. While Neurogene believes its products, technology, scientific knowledge, talent and manufacturing capabilities differentiate Neurogene and provide it with competitive advantages, Neurogene faces competition from other biotechnology companies, pharmaceutical and specialty pharmaceutical companies, as well as academic institutions. Neurogene's ability to compete will significantly depend upon its ability to complete necessary clinical trials and regulatory approval processes, and effectively market any drug that it may successfully develop.

While no disease-modifying therapies are currently available on the market for the treatment of Rett syndrome, Neurogene is aware of several companies that are in clinical or preclinical stages of developing gene therapies for the treatment of this disease. Taysha Gene Therapies, Inc. has a clinical-stage gene therapy program for the treatment of Rett syndrome. Stoke Therapeutics, Inc., in partnership with Acadia Pharmaceuticals Inc. ("Acadia"), Alcyone Therapeutics, Inc., Shape Therapeutics Inc. and Sarepta Therapeutics, Inc. have disclosed the existence of early preclinical or discovery-stage gene therapy programs for the treatment of Rett syndrome. Acadia recently announced the acquisition of worldwide rights to NNZ-2591 for Rett syndrome, which is an investigational synthetic analogue of cyclo-glycyl-proline being developed in several neurodevelopmental syndromes.

DAYBUE (trofinetide) was approved by the FDA in March 2023 and is a commercially available treatment in the United States from Acadia for Rett syndrome in adults and pediatric patients two years and older. Additionally, in July 2023, Acadia acquired ex-North American rights to trofinetide and announced plans to submit a New Drug Submission for trofinetide in Canada within 18 months and plans for Europe, Asia and other regions to be announced at a later date. However, Neurogene does not view trofinetide as directly competitive to its product candidates given the distinct mechanism of action of NGN-401, which Neurogene believes addresses the root cause of disease by replacing the missing protein.

The primary competitive factors that will affect the commercial success of any product candidate for which Neurogene may receive marketing approval include the efficacy, safety and tolerability profile, dosing convenience, price, coverage, reimbursement and public opinion. Some of Neurogene's existing or potential competitors have substantially greater financial, technical and human resources than Neurogene does and significantly greater experience in the discovery and development of product candidates, as well as in obtaining regulatory approvals of those product candidates in the United States and in foreign countries. Some of Neurogene's current and potential future competitors also have significantly more experience commercializing drugs that have been approved for marketing. Further, mergers, acquisitions and collaborations or partnerships in the biopharmaceutical industry could result in even more resources being concentrated among a small number of Neurogene's competitors.

Accordingly, competitors may be more successful than Neurogene in obtaining regulatory approval for therapies and in achieving widespread market acceptance of their drugs. It is also possible that the development of a cure or more effective treatment method for any of Neurogene's targeted indications by a competitor could render its product candidate non-competitive or obsolete, or reduce the demand for its product candidate before it can recover its development and commercialization expenses.

License Agreements

License Agreement with The University of North Carolina

In May 2019, Neurogene entered into an Exclusive License Agreement with the University of North Carolina at Chapel Hill ("UNC") to obtain an exclusive, worldwide, royalty bearing license, with the right to grant sublicenses under certain patents to make, use, or sell products covered by such patents for prevention or treatment of disease or medical or genetic conditions, including CLN5 Batten disease or other diseases from dysfunction of the CLN5 gene. Neurogene is obligated to pay UNC up to $1.7 million in sales-related milestones for licensed products based on annual sales of the licensed product in excess of defined thresholds and low single-digit percentage royalties on net sales of licensed product for as long as there is a valid patent claim under the patent rights. Neurogene is also required to reimburse any patent expenses, as well as pay a nonrefundable annual maintenance fee which, when royalties become due and payable, will be creditable against such royalties.

License Agreement with The University of Edinburgh

In January 2020, Neurogene entered into an Option Agreement (the "Edinburgh Option Agreement") with the University Court of the University of Edinburgh ("University of Edinburgh") for an option to license certain patents covering the EXACT technology (the "Licensed Technology"). To secure the option, Neurogene was solely required to pay the costs associated with the filing, preparing, prosecution and maintenance of the patents covering the Licensed Technology during the option period. Such expenses were immaterial for the year ended December 31, 2020. No other payments were payable under the Edinburgh Option Agreement. Neurogene subsequently exercised the option under the Edinburgh Option Agreement and then entered into the Master Collaboration Agreement ("MCA") discussed below, which superseded the Edinburgh Option Agreement.

In December 2020, University of Edinburgh and Neurogene entered into the MCA. Under the MCA, Neurogene and the University of Edinburgh agreed to collaborate on certain research and development projects ("Projects") and Neurogene agreed to provide funding for such Projects for a 40-month initial term, which term may be extended by mutual agreement. In exchange for such funding, the University of Edinburgh granted Neurogene the option to exclusively license any intellectual property arising from such Projects. If Neurogene exercises an exclusive option for a particular Project, Neurogene will enter into a separate exclusive license agreement on its own terms with the University of Edinburgh. Under the MCA, Neurogene is obligated to pay semi-annual installment payments relating to funding of costs for personnel and lab consumables for the 40-month period. Either party may terminate the MCA for convenience upon 90 days' notice. If Neurogene terminates the MCA, it would be responsible for all non-cancellable costs and commitments related to any particular Project and any and all funding costs for any person working on such Project.

In March 2022, Neurogene exercised its option through the collaboration under the MCA, and entered into a License Agreement (the "March 2022 Edinburgh License Agreement") with University of Edinburgh, pursuant to which Neurogene licensed certain patents and know-how related to the EXACT technology and optimized MECP2 cassettes on an exclusive basis. Under the March 2022 Edinburgh License Agreement, Neurogene obtained an exclusive, worldwide license to the licensed patents to develop, manufacture, supply, sell, and commercialize any products that utilize the licensed patents (the "Licensed Products") in exchange for low single-digit percentage royalties on future commercial net sales of the Licensed Products. Royalties are payable on a Licensed Product-by-Licensed Product and country-by-country basis until the latest of the expiration of the last licensed patent covering such Licensed Product in the country where the Licensed Product is sold, or, if no licensed patent exists or has expired in such country, then ten years from first commercial sale of such Licensed Product in such country. In connection with the license, Neurogene is also obligated to pay the University of Edinburgh up to $5.25 million in regulatory-related milestones and up to $25 million in sales-related milestones based on annual net sales of Licensed Products in excess of defined thresholds.

License Agreement with Virovek

In September 2020, Neurogene entered into a Non-Exclusive License Agreement with Virovek, Inc., pursuant to which Neurogene has a license to use certain patents and know-how on a non-exclusive basis related to Neurogene's baculovirus process in exchange for low single-digit percentage royalties on future commercial net sales of each product using the baculovirus process, development milestone payments of up to $200,000 in the aggregate, and a nonrefundable annual license fee.

License Agreement with Sigma-Aldrich Co

In January 2023, Neurogene entered into a Non-Exclusive License Agreement with Sigma-Aldrich Co. LLC, pursuant to which Neurogene has a license to certain patents and know-how on a non-exclusive basis related to certain cell lines used in Neurogene's baculovirus process in exchange for a small annual fee on a product-by-product basis, payable once the first product candidate enters the clinic. In addition, on a product-by-product basis, Neurogene is obligated to pay up to $2.5 million in the aggregate for development-related milestones.

Government Regulation

The FDA and other regulatory authorities at federal, state and local levels, as well as in foreign countries, extensively regulate, among other things, the research, development, testing, manufacture, quality control, import, export, safety, effectiveness, labeling, packaging, storage, distribution, record keeping, approval, advertising, promotion, marketing, post-approval monitoring and post-approval reporting of biological products ("biologics"), such as those Neurogene is developing. Neurogene, along with third-party contractors, will be required to navigate the various preclinical, clinical and commercial approval requirements of the governing regulatory agencies of the countries in which it wishes to conduct studies or seek approval or licensure of its product candidates. Generally, before a new therapeutic product can be marketed, considerable data demonstrating a biological product candidate's quality, safety, purity and potency, or a small molecule drug candidate's quality, safety and efficacy, must be obtained, organized into a format specific for each regulatory authority, submitted for review and approved by the regulatory authority. For biological product candidates, potency is similar to efficacy and is interpreted to mean the specific ability or capacity of the product, as indicated by appropriate laboratory tests or by adequately controlled clinical data obtained through the administration of the product in the manner intended, to effect a given result.

Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or post-market may subject an applicant to administrative or judicial sanctions. These sanctions could include, among other actions, the FDA's refusal to approve pending applications, withdrawal of an approval, a clinical hold, untitled or warning letters, product recalls or market withdrawals, product seizures,

total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement and civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on it.

U.S. Biologics Regulation

In the United States, biological products are subject to regulation under the Federal Food, Drug, and Cosmetic Act ("FDCA") and the Public Health Service Act ("PHSA") and their implementing regulations, as well as other federal, state, local, and foreign statutes and regulations. The process required by the FDA before biologic product candidates may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests and animal studies performed in accordance with applicable regulations, including the FDA's current Good Laboratory Practices ("cGLP");
- submission to the FDA of an IND, which must become effective before clinical trials may begin and must be updated annually or when significant changes are made;
- approval by an independent institutional review board ("IRB"), or ethics committee at each clinical site before the trial may be commenced;
- manufacture of the proposed biologic candidate in accordance with cGMPs, with methods and controls to ensure the product's identity, strength, quality, purity, safety and efficacy or potency;
- performance of adequate and well-controlled human clinical trials in accordance with applicable IND regulations, current Good Clinical Practice ("cGCP") requirements and other clinical-trial related regulations to establish the safety, purity and efficacy or potency of the proposed biologic product candidate for its intended purpose;
- preparation of and submission to the FDA of a biologics license application ("BLA"), after completion of pivotal clinical trials;
- a determination by the FDA within 60 days of its receipt of a BLA to file the application for review;
- satisfactory completion of an FDA Advisory Committee review, if applicable;
- satisfactory completion of an FDA pre-license inspection of the manufacturing facility or facilities at which the proposed product is produced to assess compliance with cGMPs, and to assure that the facilities, methods and controls are adequate to preserve the biological product's continued safety, purity and efficacy or potency, and potential audit of selected clinical investigation sites to assess compliance with cGCPs;
- FDA review and approval of a BLA to permit commercial marketing of the product for a particular indication(s) for use in the United States.
- payment of user fees under the Prescription Drug User Fee Act ("PDUFA"), unless waived;
- securing FDA approval of the BLA and licensure of the new biologic product; and
- compliance with any post-approval requirements, including, as applicable, the potential requirement to implement a Risk Evaluation and Mitigation Strategy, or REMS, and any post-approval studies or other post-marketing commitments required by the FDA.

Preclinical and Clinical Development

Prior to beginning the first clinical trial with a product candidate, Neurogene must submit an IND to the FDA. An IND is a request for authorization from the FDA to administer an investigational new drug product to humans. The central focus of an IND submission is on the general investigational plan and the protocol or protocols for clinical trials. The IND also includes results of animal and in vitro studies assessing the toxicology,

pharmacokinetics, pharmacology and pharmacodynamic characteristics of the product (as applicable), chemistry, manufacturing and controls information, and any available human data or literature to support the use of the investigational product. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day period, raises safety concerns or questions about the proposed clinical trial. In such a case, the IND may be placed on clinical hold. In the event of a clinical hold, the IND sponsor and the FDA must resolve any outstanding concerns or questions before the clinical trial can begin. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with cGCPs, which include the requirement that all research subjects provide their informed consent for their participation in a clinical study. Clinical trials are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A separate submission to an existing IND must be made for each successive clinical trial conducted during product development and for any subsequent protocol amendments. Furthermore, an independent IRB for each site proposing to conduct the clinical trial must review and approve the plan for any clinical trial and its informed consent form before the clinical trial begins at that site, and must monitor the study until completed.

Regulatory authorities, the IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk or that the trial is unlikely to meet its stated objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board, which provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study and may recommend halting the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as the absence of efficacy. There are also requirements governing the reporting of ongoing preclinical studies and clinical trials and clinical study results to public registries. Sponsors of clinical trials of FDA-regulated products, including biological products, are required to register and disclose certain clinical trial information, which is publicly available at *www.clinicaltrials.gov.*

A sponsor who wishes to conduct a clinical trial outside of the United States may, but need not, obtain FDA authorization to conduct the clinical trial under an IND. If a foreign clinical trial is not conducted under an IND, the sponsor may submit data from the clinical trial to the FDA in support of a BLA. The FDA will accept a well-designed and well-conducted foreign clinical trial not conducted under an IND if the trial was conducted in accordance with cGCP requirements and the FDA is able to validate the data through an onsite inspection if deemed necessary.

For purposes of BLA approval, human clinical trials are typically conducted in three sequential phases that may overlap.

- *Phase 1*. The investigational product is initially introduced into healthy human subjects or patients with the target disease or condition. These studies are designed to test the safety, dosage tolerance, absorption, metabolism and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early evidence on effectiveness.
- *Phase 2*. The investigational product is administered to a limited patient population with a specified disease or condition to evaluate the preliminary efficacy, optimal dosages and dosing schedule and to identify possible adverse side effects and safety risks. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning larger and more expensive Phase 3 clinical trials.
- *Phase 3*. The investigational product is administered to an expanded patient population to further evaluate dosage, to provide statistically significant evidence of clinical efficacy and to further test for safety, generally at multiple geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the investigational product and to provide an adequate basis for product approval.

In some cases, the FDA may require, or companies may voluntarily pursue, additional clinical trials after a product is approved to gain more information about the product. These so-called Phase 4 studies may be made a condition to approval of the BLA. Concurrent with clinical trials, companies may complete additional animal studies and develop additional information about the biological characteristics of the product candidate, and must finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, must develop methods for testing the identity, strength, quality and purity of the final product, or for biologics, the safety, purity and efficacy or potency. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data and clinical study investigators. Written IND safety reports must be promptly submitted to the FDA and the investigators for serious and unexpected suspected adverse reactions, any findings from other studies, tests in laboratory animals or in vitro testing that suggest a significant risk for human subjects, or any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor's initial receipt of the information.

BLA Submission and Review

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, the results of product development, preclinical studies and clinical trials are submitted to the FDA as part of a BLA requesting approval to market the product for one or more indications. FDA approval of a BLA must be obtained before a biologic may be marketed in the United States. The BLA must include all relevant data available from pertinent preclinical studies and clinical trials, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls, and proposed labeling, among other things. Data can come from company-sponsored clinical studies intended to test the safety and effectiveness of the product, or from a number of alternative sources, including studies initiated and sponsored by investigators. The submission of a BLA requires payment of a substantial application user fee to the FDA, unless a waiver or exemption applies.

In addition, under the Pediatric Research Equity Act ("PREA"), a BLA or supplement to a BLA must contain data to assess the safety and effectiveness of the biological product candidate for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The Food and Drug Administration Safety and Innovation Act requires that a sponsor who is planning to submit a marketing application for a biological product that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit an initial pediatric study plan ("PSP") within sixty days after an end-of-Phase 2 meeting or, if there is no such meeting, as early as practicable before the initiation of the Phase 3 or Phase 2/3 study as may be agreed between the sponsor and FDA. The initial PSP must include an outline of the pediatric study or studies that the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information. The FDA and the sponsor must reach an agreement on the PSP before initiation of pediatric studies. A sponsor can request amendments to an agreed-upon initial PSP at any time if changes to the pediatric plan need to be considered based on data collected from preclinical studies, early phase clinical trials and/or other clinical development programs. Amendments should not be considered agreed upon until the FDA issues a letter stating that the amendments are acceptable. Unless otherwise required by regulation, PREA does not apply to any biological product for an indication for which orphan designation has been granted.

Within 60 days following submission of the BLA, the FDA reviews the application to determine if it is substantially complete before the agency accepts it for filing. The FDA may refuse to file any BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. Once a BLA has been accepted for filing, the FDA's goal is to review standard applications within ten months after the filing date, or, if the application qualifies for priority review, six months after the FDA accepts the application for filing. In both standard and priority reviews, the review process may also be extended by FDA requests for additional information or clarification. The FDA reviews a BLA to determine, among other things, whether a product is safe, pure and potent and the facility in which it is manufactured, processed, packed or held meets standards designed to assure the product's continued safety, purity and efficacy or potency. The FDA may convene an advisory committee to provide clinical insight on application review questions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving a BLA, the FDA will typically inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure compliance with cGCPs. If the FDA determines that the application, manufacturing process or manufacturing facilities are not acceptable, it typically will outline the deficiencies in the submission and often will request additional testing or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

After the FDA evaluates a BLA and conducts inspections of manufacturing facilities where the product and/or its drug substance will be produced, the FDA may issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for one or more specific indications. A Complete Response Letter will describe all of the deficiencies that the FDA has identified in the BLA, except that where the FDA determines that the data supporting the application are inadequate to support approval, the FDA may issue the Complete Response Letter without first conducting required inspections, testing submitted product lots and/or reviewing proposed labeling. In issuing a Complete Response Letter, the FDA may recommend actions that the applicant might take to place the BLA in condition for approval, including requests for additional information or clarification. If a Complete Response Letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application or request an opportunity for a hearing. The FDA may delay or refuse approval of a BLA if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product.

If regulatory approval of a product is granted, such approval will be granted for one or more particular indications and may entail limitations on the indicated uses for which such product may be marketed. For example, the FDA may approve the BLA with a Risk Evaluation and Mitigation Strategy ("REMS") to ensure the benefits of the product outweigh its risks. A REMS is a safety strategy to manage a known or potential serious risk associated with a product and to enable patients to have continued access to such medicines by managing their safe use, and could include medication guides, physician communication plans, or elements to assure safe use, such as special training or monitoring requirements, restricted distribution methods, patient registries and other risk minimization tools. The FDA also may condition approval on, among other things, changes to proposed labeling or the development of adequate controls and specifications. Once a BLA is approved, the FDA may withdraw the product approval if compliance with pre- and post-marketing requirements is not maintained or if problems occur after the product reaches the marketplace. The FDA may require one or more Phase 4 post-market studies and surveillance to further assess and monitor the product's safety and effectiveness after commercialization, and may limit further marketing of the product based on the results of these post-marketing studies.

Additional Considerations for Gene Therapy Products

In addition to the regulations discussed above, there are a number of additional considerations that apply to clinical trials involving the use of gene therapy. The FDA has issued various guidance documents regarding gene therapies, which outline additional factors that the FDA will consider at each of the above stages of development and relate to, among other things: the proper preclinical assessment of gene therapies; the CMC information that should be included in an IND application; the proper design of tests to measure product efficacy or potency in support of an IND or BLA application; and measures to observe delayed adverse effects in subjects who have been exposed to investigational gene therapies when the risk of such effects is high. For instance, the FDA usually recommends that sponsors observe all surviving subjects who receive treatment using gene therapies that are based on adeno-associated virus vectors in clinical trials for potential gene therapy-related delayed adverse events for a minimum five-year period. FDA does not require the long-term tracking to be complete prior to its review of the BLA.

Expedited Development and Review Programs

The FDA offers a number of expedited development and review programs for qualifying product candidates. The fast track program is intended to expedite or facilitate the process for reviewing new products that meet certain criteria. Specifically, new products are eligible for fast track designation if they are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a new biological product may request the FDA to designate the biological product as a Fast Track product at any time during the clinical development of the product. The sponsor of a fast track product has opportunities for more frequent interactions with the review team during product development and, once a BLA is submitted, the product may be eligible for priority review. A fast track product may also be eligible for rolling review, where the FDA may consider for review sections of the BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the BLA, the FDA agrees to accept sections of the BLA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the BLA.

A product may also be eligible for breakthrough therapy designation to expedite its development and review if it is intended to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product, alone or in combination with one or more other drugs or biologics, may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the fast track program features, as well as more intensive FDA interaction and guidance beginning as early as Phase 1 and an organizational commitment to expedite the development and review of the product, including involvement of senior managers.

Regenerative medicines, which include AAV gene therapies, are eligible to receive the regenerative medicine advanced therapy (RMAT) designation. An RMAT is defined as a cell therapy, therapeutic tissue engineering product, human cell and tissue product, or any combination product using such therapies or products, with limited exceptions. Such a product is eligible for RMAT designation if it is intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition and preliminary clinical evidence indicates it has the potential to address unmet medical needs for such disease or condition. Advantages of the RMAT designation include early interactions with the FDA to discuss the development plan for the product candidate, including potential surrogate or intermediate endpoints, and eligibility for rolling and priority review. Products granted RMAT designation may also be eligible for accelerated approval on the basis of a surrogate or intermediate endpoint reasonably likely to predict long-term clinical benefit, or reliance upon data obtained from a meaningful number of sites, including through expansion to additional sites. RMAT-designated products that receive accelerated approval may, as appropriate, fulfill their post-approval requirements through the submission of clinical evidence, clinical studies, patient registries, or other sources of real-world evidence (such as electronic health records); through the collection of larger confirmatory data sets; or via post-approval monitoring of all patients treated with such therapy prior to approval of the therapy.

Any marketing application for a biologic submitted to the FDA for approval, including a product with a fast track designation, breakthrough therapy designation and/or RMAT designation, may be eligible for other types of FDA programs intended to expedite the FDA review and approval process, such as priority review and accelerated approval. A product is eligible for priority review if it has the potential to provide a significant improvement in the safety or effectiveness of the treatment, diagnosis or prevention of a serious disease or condition. For original BLAs, priority review designation means the FDA's goal is to take action on the marketing application within six months of the 60-day filing date (as compared to ten months under a standard review).

Additionally, products intended for use in treating serious or life-threatening diseases or conditions may receive accelerated approval upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA will generally require the sponsor to perform adequate and well-controlled post-marketing clinical studies with due diligence to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. Under the Food and Drug Omnibus Reform Act of 2022 ("FDORA") the FDA may require, as appropriate, that such studies be underway prior to approval or within a specific time period after the date of approval for a product granted accelerated approval. Under FDORA, the FDA has increased authority for expedited procedures to withdraw approval of a product or indication approved under accelerated approval if the sponsor fails to conduct the required post-marketing studies or if such studies fail to verify the predicted clinical benefit. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

Fast track designation, breakthrough therapy designation, RMAT designation and priority review do not change the standards for approval but may expedite the development or approval process. Even if a product qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

Orphan Drug Designation and Exclusivity

Under the Orphan Drug Act of 1983, the FDA may grant orphan drug designation to a product candidate intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or 200,000 or more individuals in the United States for which there is no reasonable expectation that the cost of developing and making available in the United States a drug or biologic for this type of disease or condition will be recovered from sales in the United States for that product candidate. Orphan drug designation must be requested before submitting a BLA. After the FDA grants orphan drug designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. The orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review or approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan drug exclusive approval (or exclusivity), which means that the FDA may not approve any other applications, including a full BLA, to market the same product for the same indication for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity by means of greater effectiveness, greater safety or providing a major contribution to patient care or if the holder of the orphan drug exclusivity cannot assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the product was designated. Orphan drug exclusivity does not prevent the FDA from approving a different drug or biologic for the same disease or condition, or the same drug or biologic for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the BLA application fee.

A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan drug designation. In addition, exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Post-Approval Requirements

Any products manufactured or distributed by Neurogene pursuant to FDA-approved applications are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to record-keeping, reporting of adverse experiences, periodic reporting, product sampling and distribution, and advertising and promotion of the product. As part of the manufacturing process, the manufacturer is required to perform certain tests on each lot of the product before it is released for distribution. After a BLA is approved for a biological product, the product also may be subject to official lot release. If the product is subject to official release by the FDA, the manufacturer submits samples of each lot of product to the FDA together with a release protocol showing a summary of the history of manufacture of the lot and the results of all of the manufacturer's tests performed on the lot. The FDA also may perform certain confirmatory tests on lots of some products before releasing the lots for distribution by the manufacturer. In addition, the FDA conducts laboratory research related to the regulatory standards on the safety, purity, and potency or effectiveness of biologics. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing user fee requirements, under which the FDA assesses an annual program fee for each product identified in an approved BLA. Biologic manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMPs, which impose certain procedural and documentation requirements upon Neurogene and its third-party manufacturers. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMPs and impose reporting requirements upon Neurogene and any third-party manufacturers that it may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMPs and other aspects of regulatory compliance.

The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of a product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of existing product approvals;
- product seizure or detention, or refusal of the FDA to permit the import or export of products;
- consent decrees, corporate integrity agreements, debarment or exclusion from federal healthcare programs;
- mandated modification of promotional materials and labeling and the issuance of corrective information;

- the issuance of safety alerts, Dear Healthcare Provider letters, press releases and other communications containing warnings or other safety information about the product; or
- injunctions or the imposition of civil or criminal penalties.

The FDA closely regulates the marketing, labeling, advertising and promotion of biologics. A company can make only those claims relating to safety and efficacy, purity and potency that are approved by the FDA and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe legally available products for uses that are not described in the product's labeling and that differ from those tested by Neurogene and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer's communications on the subject of off-label use of their products.

In addition, the distribution of prescription drug products, including most biological products that require a prescription, are subject to the Prescription Drug Marketing Act, or the PDMA, which regulates the distribution of drug samples at the federal level, and sets minimum standards for the registration and regulation of drug distributors by the states. Both the PDMA and state laws limit the distribution of prescription drug product samples and impose requirements to ensure accountability in distribution.

Biosimilars and Reference Product Exclusivity

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the "ACA"), includes a subtitle called the Biologics Price Competition and Innovation Act of 2009 ("BPCIA"), which created an abbreviated approval pathway for biological products that are highly similar, or "biosimilar," to or interchangeable with an FDA-approved reference biological product. The FDA has issued several guidance documents outlining an approach to review and approval of biosimilars.

Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and efficacy or potency, is generally shown through analytical studies, animal studies, and a clinical study or studies. Interchangeability requires that a product is biosimilar to the reference product and the product must demonstrate that it can be expected to produce the same clinical results as the reference product in any given patient and, for products that are administered multiple times to an individual, the biologic and the reference biologic may be alternated or switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. A product shown to be biosimilar or interchangeable with an FDA-approved reference biological product may rely in part on the FDA's previous determination of safety and effectiveness for the reference product for approval, which can potentially reduce the cost and time required to obtain approval to market the product. Complexities associated with the larger, and often more complex, structures of biological products, as well as the processes by which such products are manufactured, pose significant hurdles to implementation of the abbreviated approval pathway that are still being worked out by the FDA. In September 2021, the FDA issued two guidance documents intended to inform prospective applicants and facilitate the development of proposed biosimilars and interchangeable biosimilars, as well as to describe the FDA's interpretation of certain statutory requirements added by the BPCIA.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a

competing version of the reference product if the FDA approves a full BLA for the competing product containing that applicant's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and efficacy or potency of its product. The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. FDA-approved interchangeable biosimilars may be substituted for the reference product without the intervention of the prescribing health care provider, subject to state laws, which differ by state.

A biological product can also obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued "Written Request" for such a study.

The BPCIA is complex and continues to be interpreted and implemented by the FDA. In July 2018, the FDA announced an action plan to encourage the development and efficient review of biosimilars, including the establishment of a new office within the agency that will focus on therapeutic biologics and biosimilars. On December 20, 2020, Congress amended the PHSA as part of the COVID-19 relief bill to further simplify the biosimilar review process by making it optional to show that conditions of use proposed in labeling have been previously approved for the reference product, which used to be a requirement of the application. In addition, government proposals have sought to reduce the 12-year reference product exclusivity period. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. As a result, the ultimate impact, implementation, and impact of the BPCIA is subject to significant uncertainty.

As discussed below, the Inflation Reduction Act of 2022 ("IRA") is a significant new law that intends to foster generic and biosimilar competition and to lower drug and biologic costs.

Patent Term Extension

In the United States, after a BLA is approved, owners of relevant drug patents may apply for up to a five-year patent extension, which permits patent term restoration as compensation for the patent term lost during the FDA regulatory process. The allowable patent term extension is typically calculated as one-half the time between, the latter of the effective date of an IND and issue date of the patent for which extension is sought, and the submission date of a BLA, plus the time between BLA submission date and the BLA approval date up to a maximum of five years. The time can be shortened if the FDA determines that the applicant did not pursue licensure with due diligence. The total patent term after the extension may not exceed 14 years from the date of product licensure. Only one patent applicable to a licensed biological product is eligible for extension and only those claims covering the product, a method for using it, or a method for manufacturing it may be extended and the application for the extension must be submitted prior to the expiration of the patent in question. However, Neurogene may not be granted an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Some, but not all, foreign jurisdictions possess patent term extension or other additional patent exclusivity mechanisms that may be more or less stringent and comprehensive than those of the United States.

Rare Pediatric Disease Designation and Priority Review Vouchers

Under the FDCA, as amended, the FDA incentivizes the development of drugs and biologics that meet the definition of a "rare pediatric disease," defined to mean a serious or life-threatening disease in which the serious of life-threatening manifestations primarily affect individuals aged from birth to 18 years and the disease affects fewer than 200,000 individuals in the United States or affects more than 200,000 in the United States and for which there is no reasonable expectation that the cost of developing and making in the United States a drug for such disease or condition will be received from sales in the United States of such drug. The sponsor of a product

candidate for a rare pediatric disease may be eligible for a voucher that can be used to obtain a priority review for a subsequent human drug or biologic application after the date of approval of the rare pediatric disease drug product, referred to as a priority review voucher (a "PRV"). A sponsor may request rare pediatric disease designation from the FDA prior to the submission of its BLA. A rare pediatric disease designation does not guarantee that a sponsor will receive a PRV upon approval of its BLA. Moreover, a sponsor who chooses not to submit a rare pediatric disease designation request may nonetheless receive a PRV upon approval of their marketing application if they request such a voucher in their original marketing application and meet all of the eligibility criteria. If a PRV is received, it may be sold or transferred an unlimited number of times. Congress has extended the PRV program through September 30, 2024, with the potential for PRVs to be granted through September 30, 2026.

Other Healthcare Laws and Compliance Requirements

Pharmaceutical companies are subject to additional healthcare regulation and enforcement by the federal government and by authorities in the states and foreign jurisdictions in which they conduct their business. Such laws include, without limitation: the federal Anti-Kickback Statute ("AKS"); the federal False Claims Act ("FCA"); the Health Insurance Portability and Accountability Act of 1996 ("HIPAA") and similar foreign, federal and state fraud, abuse and transparency laws.

The AKS prohibits, among other things, persons and entities from knowingly and willfully soliciting, receiving, offering or paying remuneration, to induce, or in return for, either the referral of an individual, or the purchase, lease, order, arrangement, or recommendation of an item or service for which payment may be made under any federal healthcare program. The term remuneration has been interpreted broadly to include anything of value. The AKS has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand, and prescribers and purchasers on the other. The government often takes the position that to violate the AKS, only one purpose of the remuneration need be to induce referrals, even if there are other legitimate purposes for the remuneration. There are a number of statutory exceptions and regulatory safe harbors protecting some common activities from AKS prosecution, but they are drawn narrowly and practices that involve remuneration, such as consulting agreements, that may be alleged to be intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor. Neurogene's practices may not in all cases meet all of the criteria for protection under a statutory exception or regulatory safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the AKS. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. Violations are subject to civil and criminal fines and penalties for each violation, plus up to three times the remuneration involved, imprisonment, and exclusion from government healthcare programs. In addition, the government may assert that a claim including items or services resulting from a violation of the AKS constitutes a false or fraudulent claim for purposes of the federal False Claims Act or federal civil monetary penalties.

Civil and criminal false claims laws, including the FCA, and civil monetary penalty laws, which impose criminal and civil penalties and can be enforced through civil whistleblower or qui tam actions, prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment of federal government funds, including in federal healthcare programs, that are false or fraudulent; knowingly making, using or causing to be made or used, a false statement of record material to a false or fraudulent claim or obligation to pay or transmit money or property to the federal government or knowingly concealing or knowingly and improperly avoiding or decreasing an obligation to pay money to the federal government. Pharmaceutical and other healthcare companies have been prosecuted under these laws for engaging in a variety of different types of conduct that "caused" the submission of false claims to federal healthcare programs. Under the AKS, for example, a claim resulting from a violation of the AKS is deemed to be a false or fraudulent claim for purposes of the FCA. The federal False Claims Act also permits a private individual acting as a "whistleblower" to bring

actions on behalf of the federal government alleging violations of the federal False Claims Act and to share in any monetary recovery.

HIPAA created additional federal criminal statutes that prohibit, among other things, executing a scheme to defraud any healthcare benefit program, including private third-party payors, and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements or representations relating to healthcare matters.

The FDCA addresses, among other things, the design, production, labeling, promotion, manufacturing, and testing of drugs, biologics and medical devices, and prohibits such acts as the introduction into interstate commerce of adulterated or misbranded drugs or devices. The PHSA also prohibits the introduction into interstate commerce of unlicensed or mislabeled biological products.

The U.S. federal Physician Payments Sunshine Act (the "Physician Payments Sunshine Act") requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to annually report to the Centers for Medicaid & Medicare Services ("CMS") information related to payments or other transfers of value made to various healthcare professionals including physicians, certain other licensed health care practitioners, and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Beginning on January 1, 2023, California Assembly Bill 1278 requires California physicians and surgeons to notify patients of the Open Payments database established under the Physician Payments Sunshine Act.

Neurogene is also subject to federal price reporting laws and federal consumer protection and unfair competition laws. Federal price reporting laws require manufacturers to calculate and report complex pricing metrics to government programs, where such reported prices may be used in the calculation of reimbursement and/ or discounts on approved products. Federal consumer protection and unfair competition laws broadly regulate marketplace activities and activities that potentially harm consumers.

Further, Neurogene is subject to additional similar U.S. state and foreign law equivalents of each of the above federal laws, which, in some cases, differ from each other in significant ways, and may not have the same effect, thus complicating compliance efforts. If Neurogene's operations are found to be in violation of any of such laws or any other governmental regulations that apply, it may be subject to penalties, including, without limitation, civil, criminal and administrative penalties, damages, fines, exclusion from government-funded healthcare programs, such as Medicare and Medicaid or similar programs in other countries or jurisdictions, integrity oversight and reporting obligations to resolve allegations of non-compliance, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits and the curtailment or restructuring of its operations.

Data Privacy and Security

Numerous state, federal, and foreign laws govern the collection, dissemination, use, access to, confidentiality, and security of personal information, including health-related information. In the United States, numerous federal and state laws and regulations, including state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws and regulations, govern the collection, use, disclosure, and protection of health-related and other personal information could apply to Neurogene's operations or the operations of its partners. For example, HIPAA, as amended by the Health Information Technology for Economic and Clinical Health, and their respective implementing regulations imposes privacy, security, and breach notification obligations on certain health care providers, health plans, and health care clearinghouses, known as covered entities, as well as their business associates and their covered subcontractors that perform certain services that involve using, disclosing, creating, receiving, maintaining, or transmitting individually identifiable health information for or on behalf of such covered entities. Entities that are found to be in violation of HIPAA may be subject to significant civil, criminal, and administrative fines and penalties and/or

additional reporting and oversight obligations if required to enter into a resolution agreement and corrective action plan with HHS to settle allegations of HIPAA non-compliance. Further, entities that knowingly obtain, use, or disclose individually identifiable health information maintained by a HIPAA covered entity in a manner that is not authorized or permitted by HIPAA may be subject to criminal penalties.

Even when HIPAA does not apply, according to the FTC, violating consumers' privacy rights or failing to take appropriate steps to keep consumers' personal information secure may constitute unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act.

In addition, state laws govern the privacy and security of personal information, including health-related information, in certain circumstances. Failure to comply with these laws, where applicable, can result in the imposition of significant civil and/or criminal penalties and private litigation. For example, the California Consumer Privacy Act, which went into effect on January 1, 2020, creates new data privacy obligations for covered companies and provides new privacy rights to California residents.

Coverage and Reimbursement

In the United States and markets in other countries, patients generally rely on third-party payors to reimburse all or part of the costs associated with their treatment. Adequate coverage and reimbursement from governmental healthcare programs, such as Medicare and Medicaid, and commercial payors is critical to new product acceptance. Neurogene's ability to successfully commercialize its product candidates will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow it to establish or maintain pricing sufficient to realize a sufficient return on its investment. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels.

Significant uncertainty exists as to the coverage and reimbursement status of any pharmaceutical or biological product for which Neurogene obtains regulatory approval. Sales of any product, if approved, depend, in part, on the extent to which such product will be covered by third-party payors, such as federal, state, and foreign government healthcare programs, commercial insurance and managed healthcare organizations, and the level of reimbursement, if any, for such product by third-party payors. Decisions regarding whether to cover any of its product candidates, if approved, the extent of coverage and amount of reimbursement to be provided are made on a plan-by-plan basis. Further, no uniform policy for coverage and reimbursement exists in the United States, and coverage and reimbursement can differ significantly from payor to payor. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement rates, but also have their own methods and approval process apart from Medicare determinations. As a result, the coverage determination process is often a time-consuming and costly process that will require it to provide scientific and clinical support for the use of its product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. Factors payors consider in determining reimbursement are based on whether the product is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

Third-party payors are increasingly challenging the prices charged for medical products and services, examining the medical necessity and reviewing the cost effectiveness of pharmaceutical or biological products,

medical devices and medical services, in addition to questioning safety and efficacy. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit sales of any product that receives approval. Decreases in third-party reimbursement for any product or a decision by a third-party not to cover a product could reduce physician usage and patient demand for the product.

For products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may be particularly difficult because of the higher prices often associated with such drugs. Additionally, separate reimbursement for the product itself or the treatment or procedure in which the product is used may not be available, which may impact physician utilization. In addition, companion diagnostic tests require coverage and reimbursement separate and apart from the coverage and reimbursement for their companion pharmaceutical or biological products. Similar challenges to obtaining coverage and reimbursement, applicable to pharmaceutical or biological products, will apply to companion diagnostics.

In addition, net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Neurogene cannot be sure that reimbursement will be available for any product candidate that it commercializes and, if reimbursement is available, the level of reimbursement. In addition, many pharmaceutical manufacturers must calculate and report certain price reporting metrics to the government, such as average sales price, or ASP, and best price. Penalties may apply in some cases when such metrics are not submitted accurately and timely. Further, these prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs.

Finally, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost effectiveness of a particular product candidate to currently available therapies. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of its product candidates. Historically, products launched in the European Union do not follow price structures of the U.S. and generally prices tend to be significantly lower.

Healthcare Reform

The United States and some foreign jurisdictions are considering or have enacted a number of reform proposals to change the healthcare system. There is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by federal and state legislative initiatives, including those designed to limit the pricing, coverage, and reimbursement of pharmaceutical and biopharmaceutical products, especially under government-funded health care programs, and increased governmental control of drug pricing.

The ACA, which was enacted in 2010, substantially changed the way healthcare is financed by both governmental and private insurers in the United States, and significantly affected the pharmaceutical industry. The ACA contains a number of provisions of particular import to the pharmaceutical and biotechnology industries, including, but not limited to, those governing enrollment in federal healthcare programs. Since its

enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, and Neurogene expects there will be additional challenges and amendments to the ACA in the future.

Other legislative changes have been proposed and adopted since the ACA was enacted. For example, the Budget Control Act of 2011 and subsequent legislation, among other things, created measures for spending reductions by Congress that include aggregate reductions of Medicare payments to providers of 2% per fiscal year, which remain in effect through 2032. Due to the Statutory Pay-As-You-Go Act of 2010, estimated budget deficit increases resulting from the American Rescue Plan Act of 2021, and subsequent legislation, Medicare payments to providers will be further reduced starting in 2025 absent further legislation. The U.S. American Taxpayer Relief Act of 2012 further reduced Medicare payments to several types of providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

In addition, the Bipartisan Budget Act of 2018, among other things, amended the Medicare Act (as amended by the ACA) to increase the point-of-sale discounts that manufacturers must agree to offer under the Medicare Part D coverage discount program to 70% off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs being covered under Medicare Part D.

Moreover, there has recently been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted federal and state measures designed to, among other things, reduce the cost of prescription drugs, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. For example, in May 2019, CMS adopted a final rule allowing Medicare Advantage Plans the option to use step therapy for Part B drugs, permitting Medicare Part D plans to apply certain utilization controls to new starts of five of the six protected class drugs, and requiring the Explanation of Benefits for Part D beneficiaries to disclose drug price increases and lower cost therapeutic alternatives.

In addition, the U.S. government, state legislatures and foreign governments have continued implementing cost-containment programs, including price controls, restrictions on coverage and reimbursement and requirements for substitution of generic products. The IRA includes several provisions that may impact Neurogene's business to varying degrees, including provisions that reduce the out-of-pocket spending cap for Medicare Part D beneficiaries from $7,050 to $2,000 starting in 2025, thereby effectively eliminating the coverage gap; impose new manufacturer financial liability on certain drugs under Medicare Part D, allow the U.S. government to negotiate Medicare Part B and Part D price caps for certain high-cost drugs and biologics without generic or biosimilar competition; require companies to pay rebates to Medicare for certain drug prices that increase faster than inflation; and delay until January 1, 2032 the implementation of the HHS rebate rule that would have limited the fees that pharmacy benefit managers can charge. Further, under the IRA, orphan drugs are exempted from the Medicare drug price negotiation program, but only if they have one rare disease designation and for which the only approved indication is for that disease or condition. If a product receives multiple rare disease designations or has multiple approved indications, it may not qualify for the orphan drug exemption. The effects of the IRA on its business and the healthcare industry in general is not yet known.

President Biden has also issued multiple executive orders that have sought to reduce prescription drug costs. In February 2023, HHS also issued a proposal in response to an October 2022 executive order from President Biden that includes a proposed prescription drug pricing model that will test whether targeted Medicare payment adjustments will sufficiently incentivize manufacturers to complete confirmatory trials for drugs approved through FDA's accelerated approval pathway. Although a number of these and other proposed measures may require authorization through additional legislation to become effective, and the Biden administration may reverse or otherwise change these measures, both the Biden administration and Congress have indicated that they will continue to seek new legislative measures to control drug costs.

Notwithstanding the IRA and President Biden's executive orders, continued legislative and enforcement interest exists in the United States with respect to specialty drug pricing practices. Specifically, Neurogene expects regulators to continue pushing for transparency to drug pricing, reducing the cost of prescription drugs under Medicare, reviewing the relationship between pricing and manufacturer patient programs, and reforming government program reimbursement methodologies for drugs.

Individual states in the United States have also become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain drug access and marketing cost disclosure and transparency measures, and designed to encourage importation from other countries and bulk purchasing. Legally mandated price controls on payment amounts by third-party payors or other restrictions could harm its business, financial condition, results of operations and prospects. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. This could reduce the ultimate demand for its drugs or put pressure on its drug pricing, which could negatively affect Neurogene's business, financial condition, results of operations and prospects.

Other Government Regulation Outside of the United States

In addition to regulations in the United States, Neurogene is subject to a variety of regulations in other jurisdictions governing, among other things, research and development, clinical trials, testing, manufacturing, safety, efficacy, quality control, labeling, packaging, storage, record keeping, distribution, reporting, export and import, advertising, marketing and other promotional practices involving biological products as well as authorization, approval as well as post-approval monitoring and reporting of its products. Because biologically sourced raw materials are subject to unique contamination risks, their use may be restricted in some countries.

Whether or not Neurogene obtains FDA approval for a product, it must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the product in those countries. Certain countries outside of the United States have a similar process that requires the submission of a clinical trial application much like an IND prior to the commencement of human clinical trials.

The requirements and process governing the conduct of clinical trials, including requirements to conduct additional clinical trials, product licensing, safety reporting, post-authorization requirements, marketing and promotion, interactions with healthcare professionals, pricing and reimbursement may vary widely from country to country. No action can be taken to market any product in a country until an appropriate approval application has been approved by the regulatory authorities in that country. The current approval process varies from country to country, and the time spent in gaining approval varies from that required for FDA approval. In certain countries, the sales price of a product must also be approved. The pricing review period often begins after market approval is granted. Even if a product is approved by a regulatory authority, satisfactory prices may not be approved for such product, which would make launch of such products commercially unfeasible in such countries.

Regulation in the European Union

European Data Protection Laws

The collection and use of personal health data and other personal data regarding individuals in the European Economic Area ("EEA") is governed by the provisions of the European General Data Protection Regulation 2016/679 ("EU GDPR") and related data protection laws in individual EEA member states, including additional requirements relating to health, genetic and biometric data implemented through national legislation. Similar processing of personal health data and other personal data regarding individuals in the United Kingdom ("UK") is governed by the UK General Data Protection Regulation ("UK GDPR") and the UK Data Protection Act 2018.

In this document, “GDPR” refers to both the EU GDPR and the UK GDPR, unless specified otherwise. The GDPR imposes a number of strict obligations and restrictions on the ability to process, including collecting, analyzing and transferring, personal data of individuals, in particular with respect to health data from clinical trials and adverse event reporting. The GDPR includes requirements relating to the legal basis of the processing (such as consent of the individuals to whom the personal data relates), the information provided to the individuals prior to processing their personal data, the notification obligations to the national data protection authorities, and the security and confidentiality of the personal data.

In addition, the GDPR imposes specific restrictions on the transfer of personal data to countries outside of the EEA/UK that are not considered by the European Commission (“EC”) and the United Kingdom government as providing an adequate level of data protection (third countries), including the United States. Appropriate safeguards are required to enable such transfers. Among the appropriate safeguards that can be used, the data exporter may use the European Commission approved standard contractual clauses (“SCCs”) and the UK International Data Transfer Agreement/Addendum (“UK IDTA”). Where relying on the SCCs or UK IDTA for data transfers, Neurogene may also be required to carry out transfer impact assessments to assess whether the recipient is subject to local laws which allow public authority access to personal data. The international transfer obligations under the EEA/UK data protection regimes will require effort and cost and may result in it needing to make strategic considerations around where EEA/UK personal data are located and which service providers Neurogene can utilize for the processing of EEA/UK personal data. Although the UK is regarded as a third country under the EU GDPR, the European Commission has issued a decision recognizing the UK as providing adequate protection under the EU GDPR (“Adequacy Decision”) and, therefore, transfers of personal data originating in the EEA to the UK remain unrestricted. The UK government has confirmed that personal data transfers from the UK to the EEA remain free flowing. The UK government has also now introduced a Data Protection and Digital Information Bill (“UK Data Protection Bill”) into the UK legislative process with the intention for this bill to reform the UK’s data protection regime following the UK’s succession from the EU. If passed, the final version of the UK Data Protection Bill may have the effect of further altering the similarities between the UK and EU data protection regime. This may lead to additional compliance costs and could increase its overall risk. The respective provisions and enforcement of the EU GDPR and UK GDPR may further diverge in the future and create additional regulatory challenges and uncertainties.

On March 25, 2022, the EC and the United States announced that they have agreed in principle on a new Trans-Atlantic Data Privacy Framework. Following this statement, on October 7, 2022, President Biden signed an Executive Order on ‘Enhancing Safeguards for United States Signals Intelligence Activities’, which implemented the agreement in principle. On that basis, the EC prepared a draft Adequacy Decision and launched its adoption procedure. While this new EU-U.S. privacy framework is expected to enter into force in 2023, there is still some uncertainty around the new framework.

Failure to comply with the requirements of the GDPR and the related national data protection laws of the EEA member states/UK may result in significant monetary fines for noncompliance of up to €20 million (£17.5 million for the UK) or 4% of the annual global revenues of the noncompliant company, whichever is greater, other administrative penalties and a number of criminal offenses (punishable by uncapped fines) for organizations and, in certain cases, their directors and officers, as well as civil liability claims from individuals whose personal data was processed. Data protection authorities from the different EEA member states/UK may still implement certain variations, enforce the GDPR and national data protection laws differently, and introduce additional national regulations and guidelines, which adds to the complexity of processing personal data subject to the EEA/UK data protection regimes. Guidance developed at both the EU level and at the national level in individual EU member states concerning implementation and compliance practices are often updated or otherwise revised.

Compliance with the GDPR is a rigorous and time-intensive process that may increase Neurogene’s cost of doing business or require it to change its business practices, and despite those efforts, there is a risk that Neurogene may be subject to fines, penalties and litigation in connection with European activities, which could in turn have a negative effect on its reputation and materially harm its business.

Furthermore, there is a growing trend towards the required public disclosure of clinical trial data in the EU, which adds to the complexity of obligations relating to processing health data from clinical trials. Such public disclosure obligations are provided in the new EU Clinical Trials Regulation (EU) No. 536/2014 (the "CTR"), EMA disclosure initiatives and voluntary commitments by industry. Failure to comply with these obligations could lead to government enforcement actions and significant penalties against it, harm to its reputation, and adversely impact its business and operating results. The uncertainty regarding the interplay between different regulatory frameworks, such as the CTR and the GDPR, further adds to the complexity that Neurogene faces with regard to data protection regulation.

Drug and Biologic Development Process

Regardless of where they are conducted, all clinical trials included in applications for marketing authorization for human medicines in the EU must have been carried out in accordance with EU regulations. This means that clinical trials conducted in the EU have to comply with EU clinical trial legislation but also that clinical trials conducted outside the EU have to comply with ethical principles equivalent to those set out in the EU, including adhering to international good clinical practice and the Declaration of Helsinki. The conduct of clinical trials in the EU is governed by the CTR, which entered into force on January 31, 2022. The CTR replaced the Clinical Trials Directive 2001/20/EC, ("Clinical Trials Directive") and introduced a complete overhaul of the existing regulation of clinical trials for medicinal products in the EU.

Under the former regime, which will expire after a transition period of one or three years, respectively, as outlined below in more detail, before a clinical trial can be initiated it must be approved in each EU member state where there is a site at which the clinical trial is to be conducted. The approval must be obtained from two separate entities: the national competent authority in the applicable EU member state(s) and one or more ethics committees. The national competent authority of all EU member states in which the clinical trial will be conducted must authorize the conduct of the trial, and the independent ethics committee must grant a positive opinion in relation to the conduct of the clinical trial in the relevant EU member state before the commencement of the trial. Any substantial changes to the trial protocol or other information submitted with the clinical trial applications must be submitted to or approved by the relevant national competent authorities and ethics committees. Under the current regime all suspected unexpected serious adverse reactions to the investigated drug that occur during the clinical trial must be reported to the national competent authority and to the ethics committees of the EU member state where they occur.

A more unified procedure applies under the CTR. A sponsor can submit a single application for approval of a clinical trial through a centralized EU clinical trials portal (the "Clinical Trials Information System" or "CTIS"). One national competent authority (the reporting EU member state proposed by the applicant) will take the lead in validating and evaluating the application, and will consult and coordinate with the other concerned EU member states. If an application is rejected, it may be amended and resubmitted through the EU clinical trials portal. If an approval is issued, the sponsor may start the clinical trial in all concerned EU member states. However, a concerned EU member state may in limited circumstances declare an "opt-out" from an approval and prevent the clinical trial from being conducted in such member state. The CTR also aims to streamline and simplify the rules on safety reporting, and introduces enhanced transparency requirements such as mandatory submission of a summary of the clinical trial results to the EU database. The CTR foresees a three-year transition period. On January 31, 2023, submission of initial clinical trial applications via CTIS became mandatory, and by January 31, 2025, all ongoing trials approved under the former Clinical Trials Directive will need to comply with the CTR and have to be transitioned to CTIS.

Under both the former regime and the CTR, national laws, regulations, and the applicable GCP and GLP standards must also be respected during the conduct of the trials, including the International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use guidelines on Good Clinical Practice and the ethical principles that have their origin in the Declaration of Helsinki.

During the development of a medicinal product, the European Medicines Agency ("EMA") and national regulators within the EU provide the opportunity for dialogue and guidance on the development program. At the EMA level, this is usually done in the form of scientific advice, which is given by the Committee for Medicinal Products for Human Use ("CHMP") on the recommendation of the Scientific Advice Working Party. A fee is incurred with each scientific advice procedure but is significantly reduced for designated orphan medicines. Advice from the EMA is typically provided based on questions concerning, for example, quality (chemistry, manufacturing and controls testing), nonclinical testing and clinical studies, and pharmacovigilance plans and risk-management programs. Advice is not legally binding with regard to any future marketing authorization application ("MAA") for the product concerned.

Drug Marketing Authorization

In the EU, medicinal products are subject to extensive pre- and post-market regulation by regulatory authorities at both the EU and national levels. To obtain regulatory approval of a product under the EU regulatory systems, Neurogene must submit an MAA under either the EU centralized procedure, or one of the national procedures in the EU.

Centralized Authorization Procedure

The centralized procedure provides for the grant of a single marketing authorization ("MA") that is issued by the European Commission (EC) following the scientific assessment of the application by the EMA and that is valid for all EU member states as well as in the three additional EEA member states (Norway, Iceland and Liechtenstein). The centralized procedure is compulsory for certain types of medicinal products, including for medicines developed by means of certain biotechnological processes, products designated as orphan medicinal products, advanced therapy medicinal products (gene therapy, somatic cell therapy or tissue-engineered medicines) and medicinal products with a new active substance indicated for the treatment of certain diseases (HIV/AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and other immune dysfunctions and viral diseases). The centralized procedure is optional for medicinal products containing a new active substance not yet authorized in the EU, or for products that constitute a significant therapeutic, scientific or technical innovation or for which the grant of an MA through the centralized procedure would be in the interest of public health at EU level.

Under the centralized procedure, the CHMP established at the EMA, is responsible for conducting the initial assessment of a drug. The CHMP is also responsible for several post-authorization and maintenance activities, such as the assessment of modifications or extensions to an existing marketing authorization. Under the centralized procedure, the timeframe for the evaluation of an MAA by the EMA's CHMP is, in principle, 210 days from receipt of a valid MAA. However, this timeline excludes clock stops, when additional written or oral information is to be provided by the applicant in response to questions asked by the CHMP, so the overall process typically takes a year or more, unless the application is eligible for an accelerated assessment. Accelerated evaluation might be granted by the CHMP in exceptional cases, when a medicinal product is expected to be of a major public health interest, particularly from the point of view of therapeutic innovation. Upon request, the CHMP can reduce the time frame to 150 days if the applicant provides sufficient justification for an accelerated assessment. The CHMP will provide a positive opinion regarding the application only if it meets certain quality, safety and efficacy requirements. This opinion is then transmitted to the EC, which has the ultimate authority for granting the MA within 67 days after receipt of the CHMP opinion.

Decentralized and Mutual Recognition Procedures

Medicines that fall outside the mandatory scope of the centralized procedure can be authorized under a decentralized procedure where an applicant applies for simultaneous authorization in more than one EU member state, or they can be authorized in an EU member state in accordance with that state's national procedures and then be authorized in other EU countries by a procedure whereby the countries concerned agree to recognize the validity of the original, national marketing authorization (mutual recognition procedure).

The decentralized procedure permits companies to file identical MA applications for a medicinal product to the competent authorities in various EU member states simultaneously if such medicinal product has not received marketing approval in any EU member state before. The competent authority of a single EU member state, the reference member state, is appointed to review the application and provide an assessment report. The competent authorities of the other EU member states, the concerned member states, are subsequently required to grant a marketing authorization for their territories on the basis of this assessment. The only exception to this is where the competent authority of an EU member state considers that there are concerns of potential serious risk to public health, the disputed points are subject to a dispute resolution mechanism and may eventually be referred to the EC, whose decision is binding for all EU member states.

Risk Management Plan

All new MAAs must include a Risk Management Plan ("RMP") describing the risk management system that the company will put in place and documenting measures to prevent or minimize the risks associated with the product. RMPs are continually modified and updated throughout the lifetime of the medicine as new information becomes available. An updated RMP must be submitted: (i) at the request of EMA or a national competent authority, or (ii) whenever the risk-management system is modified, especially as the result of new information being received that may lead to a significant change to the benefit-risk profile or as a result of an important pharmacovigilance or risk-minimization milestone being reached. The regulatory authorities may also impose specific obligations as a condition of the MA. RMPs and Periodic Safety Update Reports ("PSURs") are routinely available to third parties requesting access, subject to limited redactions.

MA Validity Period

In the EU, an MA has an initial duration of five years. After these five years, the authorization may subsequently be renewed on the basis of a reevaluation of the risk-benefit balance. Once renewed, the MA is valid for an unlimited period unless the EC or the national competent authority decides on justified grounds relating to pharmacovigilance, to proceed with only one additional five-year renewal. Applications for renewal must be made to the EMA at least nine months before the five-year period expires.

Exceptional Circumstances/Conditional Approval

Similar to accelerated approval regulations in the United States, conditional MAs can be granted in the EU for medicines intended for treating, preventing or diagnosing seriously debilitating or life-threatening diseases, or in a public health emergency. A conditional MA can be granted for medicinal products where, although comprehensive clinical data referring to the safety and efficacy of the medicinal product have not been supplied, the following criteria are fulfilled: (i) the benefit/risk balance of the product is positive, (ii) it is likely that the applicant will be in a position to provide the comprehensive clinical data post-authorization, (iii) unmet medical needs will be fulfilled by the grant of the MA and (iv) the benefit to public health of the immediate availability on the market of the medicinal product concerned outweighs the risk inherent in the fact that additional data are still required. Once a conditional MA has been granted, the MA holder must fulfil specific obligations within defined timelines. A conditional MA must be renewed annually, but can be converted into a standard MA once the MA holder fulfils the obligations imposed and the complete data confirm that the medicine's benefits continue to outweigh its risks.

Data and Market Exclusivity

As in the United States, it may be possible to obtain a period of market and / or data exclusivity in the EU that would have the effect of postponing the entry into the marketplace of a competitor's generic, hybrid or biosimilar product (even if the pharmaceutical product has already received a MA) and prohibiting another applicant from relying on the MA holder's pharmacological, toxicological and clinical data in support of another MA for the purposes of submitting an application, obtaining an MA or placing the product on the market.

Innovative medicinal products (sometimes referred to as new chemical entities) approved in the EU generally qualify for eight years of data exclusivity and 10 years of marketing exclusivity.

If granted, the data exclusivity period begins on the date of the product's first MA in the EU and prevents generic or biosimilar applicants from referencing the innovator's preclinical and clinical trial data contained in the dossier of the reference product when applying for a generic or biosimilar marketing authorization in the EU. After eight years, a generic product application may be submitted and generic companies may rely on the MA holder's data. However, a generic product cannot launch until two years later (or a total of 10 years after the first MA in the EU of the innovator product). An additional one-year period of marketing exclusivity is possible if, during the data exclusivity period (the first eight years of the 10-year marketing exclusivity period), the MA holder obtains an authorization for one or more new therapeutic indications that are deemed to bring a significant clinical benefit compared to existing therapies. Additionally, a standalone one-year period of data exclusivity can be granted where an application is made for a new indication for a well-established substance, provided that significant pre-clinical or clinical studies were carried out in relation to the new indication. Where a change of classification of a pharmaceutical product has been authorized on the basis of significant pre-trial tests or clinical trials, when examining an application by another applicant for or holder of an MA for a change of classification of the same substance the competent authority will not refer to the results of those tests or trials for one year after the initial change was authorized.

Products may not be granted data exclusivity since there is no guarantee that a product will be considered by the European Union's regulatory authorities to include a NCE. Even if a compound is considered to be a NCE and the MA applicant is able to gain the prescribed period of data exclusivity, another company nevertheless could also market another version of the medicinal product if such company can complete a full MAA with their own complete database of pharmaceutical tests, preclinical studies and clinical trials and obtain MA for its product.

Orphan Designation and Exclusivity

The criteria for designating an orphan medicinal product in the EU are similar in principle to those in the United States. Under Article 3 of Regulation (EC) 141/2000, a medicinal product may be designated as an orphan product if its sponsor can establish that (1) it is intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition; (2) either (a) such condition affects no more than five in 10,000 persons in the EU when the application is made, or (b) the product, without the benefits derived from orphan status, would not generate sufficient return in the EU to justify the necessary investment in its development; and (3) there exists no satisfactory method of diagnosis, prevention or treatment of such condition authorized for marketing in the EU, or if such a method exists, the product will be of significant benefit to those affected by the condition, as defined in Regulation (EC) 847/2000. Orphan medicinal products are eligible for financial incentives such as reduction of fees or fee waivers and are, upon grant of a marketing authorization, entitled to ten years of market exclusivity for the approved therapeutic indication. An application for orphan drug designation (which is not a marketing authorization, as not all orphan-designated medicines reach the authorization application stage) must be submitted first before an MAA of the medicinal product is submitted. The applicant will receive a fee reduction for the MAA if the orphan drug designation has been granted, but not if the designation is still pending at the time the MAA is submitted, and sponsors must submit annual reports to EMA summarizing the status of development of the medicine. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process. Designated orphan medicines are eligible for conditional marketing authorization.

The EMA's Committee for Orphan Medicinal Products reassesses the orphan drug designation of a product in parallel with the review for a marketing authorization; for a product to benefit from market exclusivity it must maintain its orphan drug designation at the time of marketing authorization review by the EMA and approval by the EC. Additionally, any marketing authorization granted for an orphan medicinal product must only cover the therapeutic indication(s) that are covered by the orphan drug designation.

During the 10-year period of market exclusivity, with a limited number of exceptions, the regulatory authorities of the EU member states and the EMA may not accept applications for marketing authorization, accept an application to extend an existing marketing authorization or grant marketing authorization for other similar medicinal products for the same therapeutic indication. A similar medicinal product is defined as a medicinal product containing a similar active substance or substances as contained in a currently authorized orphan medicinal product, and which is intended for the same therapeutic indication. An orphan medicinal product can also obtain an additional two years of market exclusivity for an orphan-designated condition when the results of specific studies are reflected in the Summary of Product Characteristics ("SmPC") addressing the pediatric population and completed in accordance with a fully compliant Pediatric Investigation Plan ("PIP"). No extension to any supplementary protection certificate can be granted on the basis of pediatric studies for orphan indications.

The 10-year market exclusivity may be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan designation, i.e., the condition prevalence or financial returns criteria under Article 3 of Regulation (EC) No. 141/2000 on orphan medicinal products. When the period of orphan market exclusivity for an indication ends, the orphan drug designation for that indication expires as well. Orphan exclusivity runs in parallel with normal rules on data exclusivity and market protection. During the period of market exclusivity, an MA may only be granted to a "similar medicinal product" for the same therapeutic indication if: (i) a second applicant can establish that its product, although similar to the authorized product, is safer, more effective or otherwise clinically superior; (ii) the MA holder for the authorized product consents to a second orphan medicinal product application; or (iii) the MA holder for the authorized product cannot supply enough orphan medicinal product.

Pediatric Development

In the EU, companies developing a new medicinal product are obligated to study their product in children and must therefore submit a PIP together with a request for agreement to the EMA, unless the EMA has granted a product-specific waiver, a class waiver, or a deferral for one or more of the measures included in the PIP. The EMA issues a decision on the PIP based on an opinion of the EMA's Pediatric Committee. Companies must conduct pediatric clinical trials in accordance with the PIP approved by the EMA, unless a deferral (e.g., until enough information to demonstrate its effectiveness and safety in adults is available) or waiver (e.g., because the relevant disease or condition occurs only in adults) has been granted by the EMA. The MAA for the medicinal product must include the results of all pediatric clinical trials performed and details of all information collected in compliance with the approved PIP, unless such a waiver or a deferral has been granted. Medicinal products that are granted an MA on the basis of the pediatric clinical trials conducted in accordance with the approved PIP are eligible for a six month extension of the protection under a supplementary protection certificate ("SPC"), provided an application for such extension is made at the same time as filing the SPC application for the product, or at any point up to two years before the SPC expires, or, in the case of orphan medicinal products, a two year extension of the orphan market exclusivity. This pediatric reward is subject to specific conditions and is not automatically available when data in compliance with the approved PIP are developed and submitted. An approved PIP is also required when an MA holder wants to add a new indication, medicinal form or route of administration for a medicine that is already authorized and covered by intellectual property rights.

PRIME Designation

In March 2016, the EMA launched an initiative to facilitate development of product candidates in indications, often rare, for which few or no therapies currently exist. The Priority Medicines ("PRIME") scheme is intended to encourage drug development in areas of unmet medical need and provides accelerated assessment of products representing substantial innovation reviewed under the centralized procedure. Products from small- and medium-sized enterprises may qualify for earlier entry into the PRIME scheme than larger companies on the basis of compelling non-clinical data and tolerability data from initial clinical trials. Many benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive

regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and potentially accelerated marketing authorization application assessment once a dossier has been submitted. Importantly, once a candidate medicine has been selected for the PRIME scheme, a dedicated contact point and rapporteur from the CHMP or from CAT are appointed facilitating increased understanding of the product at EMA's committee level. A kick-off meeting with the CHMP/CAT rapporteur initiates these relationships and includes a team of multidisciplinary experts to provide guidance on the overall development plan and regulatory strategy. PRIME eligibility does not change the standards for product approval, and there is no assurance that any such designation or eligibility will result in expedited review or approval.

Post-Approval Regulation

Similar to the United States, both MA holders and manufacturers of medicinal products are subject to comprehensive regulatory oversight by the EMA, the EC and/or the competent regulatory authorities of the EU member states. This oversight applies both before and after grant of manufacturing licenses and marketing authorizations. It includes control of compliance with EU good manufacturing practices rules, manufacturing authorizations, pharmacovigilance rules and requirements governing advertising, promotion, sale, and distribution, recordkeeping, importing and exporting of medicinal products.

Failure by Neurogene or by any of its third-party partners, including suppliers, manufacturers and distributors to comply with EU laws and the related national laws of individual EU member states governing the conduct of clinical trials, manufacturing approval, MA of medicinal products and marketing of such products, both before and after grant of MA, statutory health insurance, bribery and anti-corruption or other applicable regulatory requirements may result in administrative, civil or criminal penalties. These penalties could include delays or refusal to authorize the conduct of clinical trials or to grant an MA, product withdrawals and recalls, product seizures, suspension, withdrawal or variation of the MA, total or partial suspension of production, distribution, manufacturing or clinical trials, operating restrictions, injunctions, suspension of licenses, fines and criminal penalties.

The holder of an MA for a medicinal product must also comply with EU pharmacovigilance legislation and its related regulations and guidelines, which entail many requirements for conducting pharmacovigilance, or the assessment and monitoring of the safety of medicinal products.

MA holders must establish and maintain a pharmacovigilance system and appoint an individual qualified person for pharmacovigilance, who is responsible for oversight of that system. Key obligations include expedited reporting of suspected serious adverse reactions and submission of PSURs in relation to medicinal products for which they hold MAs. The EMA reviews PSURs for medicinal products authorized through the centralized procedure. If the EMA has concerns that the risk benefit profile of a product has varied, it can adopt an opinion advising that the existing MA for the product be suspended, withdrawn or varied. The EMA can advise that the MA holder be obliged to conduct post-authorization Phase 4 safety studies. If the EC agrees with the opinion, it can adopt a decision varying the existing MA. Failure by the MA holder to fulfill the obligations for which the EC's decision provides can undermine the ongoing validity of the MA.

More generally, non-compliance with pharmacovigilance obligations can lead to the variation, suspension or withdrawal of the MA for the product or imposition of financial penalties or other enforcement measures.

The manufacturing process for pharmaceutical products in the EU is highly regulated and regulators may shut down manufacturing facilities that they believe do not comply with regulations. Manufacturing requires a manufacturing authorization, and the manufacturing authorization holder must comply with various requirements set out in the applicable EU laws, regulations and guidance, including Directive 2001/83/EC, Directive 2003/94/EC, Regulation (EC) No 726/2004 and the European Commission Guidelines for GMP. These requirements include compliance with cGMP standards when manufacturing pharmaceutical products and active pharmaceutical ingredients, including the manufacture of active pharmaceutical ingredients outside of the EU

with the intention to import the active pharmaceutical ingredients into the European Union. Similarly, the distribution of pharmaceutical products into and within the EU is subject to compliance with the applicable EU laws, regulations and guidelines, including the requirement to hold appropriate authorizations for distribution granted by the competent authorities of the EU member states. The manufacturer or importer must have a qualified person who is responsible for certifying that each batch of product has been manufactured in accordance with cGMP, before releasing the product for commercial distribution in the EU or for use in a clinical trial. Manufacturing facilities are subject to periodic inspections by the competent authorities for compliance with cGMP.

Sales and Marketing Regulations

The advertising and promotion of Neurogene's products is also subject to EU laws concerning promotion of medicinal products, interactions with physicians, misleading and comparative advertising and unfair commercial practices. In addition, other national legislation of individual EU member states may apply to the advertising and promotion of medicinal products and may differ from one country to another. These laws require that promotional materials and advertising in relation to medicinal products comply with the product's SmPC as approved by the national competent authorities. The SmPC is the document that provides information to physicians concerning the safe and effective use of the medicinal product. It forms an intrinsic and integral part of the marketing authorization granted for the medicinal product. Promotion of a medicinal product that does not comply with the SmPC is considered to constitute off-label promotion, which is prohibited in the EU. Direct-to-consumer advertising of prescription-only medicines is also prohibited in the EU. Violations of the rules governing the promotion of medicinal products in the EU could be penalized by administrative measures, fines and imprisonment.

Anti-Corruption Legislation

In the EU, interactions between pharmaceutical companies and physicians are also governed by strict laws, regulations, industry self-regulation codes of conduct and physicians' codes of professional conduct both at EU level and in the individual EU member states. The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is prohibited in the European Union. The provision of benefits or advantages to physicians is also governed by the national anti-bribery laws of the EU member states. Violation of these laws could result in substantial fines and imprisonment.

Payments made to physicians in certain EU member states also must be publicly disclosed. Moreover, agreements with physicians must often be the subject of prior notification and approval by the physician's employer, his/her regulatory professional organization, and/or the competent authorities of the individual EU member states. These requirements are provided in the national laws, industry codes, or professional codes of conduct, applicable in the individual EU member states. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

Other Markets

The U.K. formally left the EU on January 31, 2020 and the transition period, during which EU laws continued to apply to the U.K., expired on December 31, 2020. This means EU laws now only apply to the U.K. in respect to Northern Ireland as laid out in the Northern Ireland Protocol. Following the end of the transition period, the EU and the U.K. concluded a trade and cooperation agreement ("TCA"), which applied provisionally from January 1, 2021 and entered into force on May 1, 2021.

The TCA includes specific provisions concerning pharmaceuticals, which include the mutual recognition of cGMP, inspections of manufacturing facilities for medicinal products and cGMP documents issued, but does not provide for wholesale mutual recognition of UK and EU pharmaceutical regulations. At present, Great Britain

has implemented EU legislation on the marketing, promotion and sale of medicinal products through the Human Medicines Regulations 2012 (as amended). Except in respect of the new CTR, the regulatory regime in Great Britain therefore largely aligns with current EU medicines regulations, however it is possible that these regimes will diverge more significantly in future now that Great Britain's regulatory system is independent from the EU and the TCA does not provide for mutual recognition of UK and EU pharmaceutical legislation. However, notwithstanding that there is no wholesale recognition of EU pharmaceutical legislation under the TCA, under a new framework which will be put in place by the Medicines and Healthcare products Regulatory Agency ("MHRA"), from January 1, 2024, the MHRA has stated that it will take into account decisions on the approval of marketing authorizations from the EMA (and certain other regulators) when considering an application for a Great Britain marketing authorization.

On February 27, 2023, the UK government and the EC announced a political agreement in principle to replace the Northern Ireland Protocol with a new set of arrangements, known as the "Windsor Framework". This new framework fundamentally changes the existing system under the Northern Ireland Protocol, including with respect to the regulation of medicinal products in the UK. In particular, the MHRA will be responsible for approving all medicinal products destined for the UK market (i.e., Great Britain and Northern Ireland), and the EMA will no longer have any role in approving medicinal products destined for Northern Ireland. A single UK-wide marketing authorization will be granted by the MHRA for all medicinal products to be sold in the UK, enabling products to be sold in a single pack and under a single authorization throughout the UK. The Windsor Framework was approved by the EU-UK Joint Committee on March 24, 2023, so the UK government and the EU will enact legislative measures to bring it into law.

For other countries outside of the EU, such as countries in Eastern Europe, Latin America or Asia, the requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary from country to country. In all cases, again, the clinical trials must be conducted in accordance with cGCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

If Neurogene fails to comply with applicable foreign regulatory requirements, it may be subject to, among other things, fines, suspension of clinical trials, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

Employees and Human Capital Resources

Our Values

Neurogene was founded on a passionate belief that innovation in gene therapy can bring treatment options to patients with complex neurological diseases—patients who are waiting with unmet needs and often overlooked. Neurogene's behaviors reflect its values and encompass how its teams work together with open minds, reimagining the future and advocating for patients and families to achieve its mission. Neurogene's vision is to turn devastating neurological diseases into treatable conditions and improve the lives of patients and their families. Neurogene is focused on building a corporate culture that nurtures innovation, creative problem solving and a strong sense of purpose with patient and caregiver mindsets at the forefront. Neurogene's core values include:

- Patients and Families are Waiting: Neurogene does what is right for its patients, its teams and its community
- It's Better Together: Neurogene is passionate about its work, its colleagues and its patients, caregivers and families
- Keep an Open Mind: Neurogene actively listens to and values diverse opinions
- Reimagine the Future: Neurogene drives, innovates, takes balanced risks and advances therapies with a sense of urgency

Neurogene seeks to prioritize employee development and align employees' goals with Neurogene's vision, mission, and overall strategic direction. Its human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating its existing and additional employees. The principal purposes of its equity incentive plans are to attract, retain and motivate selected employees, consultants and directors through the granting of stock-based compensation awards and cash-based performance bonus awards, in order to align such individuals' goals with increasing stockholder value and the success of Neurogene.

As of August 1, 2023, Neurogene had 82 employees, all of whom were employed full time and 60 of whom were engaged in research, development and technical operations activities. 22 of Neurogene's employees hold Ph.D. or M.D. degrees. None of its employees are represented by a labor union or covered under a collective bargaining agreement. Neurogene considers its relationship with its employees to be good.

Facilities

Neurogene currently leases two properties: an approximately 42,000 square foot manufacturing facility in Houston, Texas, and an approximately 6,000 square foot office space in New York, New York. The Houston manufacturing facility is used for Neurogene's in-house manufacturing, warehouse and cold storage functions and the lease expires on August 31, 2029. The New York office space is Neurogene's corporate headquarters and the lease expires on June 30, 2026. In addition, since the start of the COVID-19 pandemic, Neurogene has established a hybrid work-from-home policy for many of its employees. As Neurogene expands, Neurogene currently believes suitable additional or substitute space will be available as and when needed.

Legal Proceedings

From time to time, Neurogene may be subject to legal proceedings. It is not currently a party to or aware of any proceedings that it believes will have, individually or in the aggregate, a material adverse effect on its business, financial condition or results of operations. Regardless of outcome, litigation can have an adverse impact on Neurogene because of defense and settlement costs, diversion of management resources and other factors.

NEOLEUKIN MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of Neoleukin's financial condition and results of operations should be read in conjunction with Neoleukin's consolidated financial statements and notes thereto appearing elsewhere in this proxy statement/prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this proxy statement/prospectus, including information with respect to Neoleukin's plans and strategy for Neoleukin's business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, Neoleukin's actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

Neoleukin is a biopharmaceutical company creating next generation immunotherapies for cancer, inflammation, and autoimmunity using *de novo* protein design technology. Neoleukin uses sophisticated computational methods to design proteins that demonstrate specific pharmaceutical properties that provide potentially superior therapeutic benefit over native proteins.

In November 2022, Neoleukin announced a corporate restructuring as a result of the strategic decision to discontinue development of NL-201 and turn its focus to the next generation of *de novo* cytokine mimetics that further widen the therapeutic window. While Neoleukin believes that there are promising developments in this field of research, Neoleukin also continued to evaluate strategic alternatives in light of the challenging capital markets. In March 2023, Neoleukin announced a further corporate restructuring to significantly reduce its workforce and suspend its research and development activities in order to conserve capital and focus on other strategic alternatives for Neoleukin.

Recent Developments

On July 17, 2023, Neoleukin entered into the Merger Agreement with Merger Sub and Neurogene, pursuant to which, among other matters and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly owned subsidiary of Neoleukin, and Neurogene being the surviving corporation of the Merger. For additional information, see the sections entitled "*The Merger*" and "*The Merger Agreement*" beginning on pages 105 and 152 of this proxy statement/prospectus, respectively.

If the Merger is completed, the combined company will focus on developing Neurogene's product candidates, which are described on page 241 under the section entitled "*Neurogene's Business*," and it is anticipated that the combined company will not continue to develop Neoleukin's product candidates. If the Merger is not completed, Neoleukin will reconsider its strategic alternatives.

Results of Operations

Comparison of Three and Six Months Ended June 30, 2023 and 2022

Operating Expenses

The following table summarizes Neoleukin's operating expenses for the three and six months ended June 30, 2023 and 2022:

	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
(in thousands)	2023	2022	$	%	2023	2022	$	%
Research and development	$ (426)	$ 10,956	$ (11,382)	(104)%	$ 7,263	$ 21,656	$ (14,393)	(66)%
General and administrative	3,492	4,915	(1,423)	(29)%	7,519	9,580	(2,061)	(22)%
Impairment on property and equipment	—	—	—	— %	3,418	—	3,418	100%
Total operating expenses	$ 3,066	$ 15,871	$ (12,805)	(81)%	$ 18,200	$ 31,236	$ (13,036)	(42)%

Research and Development Expenses

Research and development expenses consist primarily of costs incurred under arrangements with third parties, such as clinical research organizations ("CROs"), manufacturing organizations, and consultants, personnel-related costs (including stock-based compensation, severance expenses and travel expenses), facility-related costs, and laboratory-related costs.

For the three months ended June 30, 2023, research and development expenses were $(0.4) million, compared to $11.0 million for the three months ended June 30, 2022. The decrease in research and development expenses during the three months ended June 30, 2023 is primarily due to lower personnel costs as well as lower facility lease expense due to such expense being captured in general and administrative expenses beginning in the second quarter of 2023 as a result of the decision in March 2023 to suspend Neoleukin's research and development activities. The decrease in the three months ended June 30, 2023 is also due to credits recorded in conjunction with the reconciliation of clinical trial activity by the CRO as part of the wind-down of Neoleukin's NL-201 clinical trial and a gain recognized on the sale of lab equipment.

For the six months ended June 30, 2023, research and development expenses were $7.3 million, compared to $21.7 million for the six months ended June 30, 2022. The decrease in research and development expenses during the six months ended June 30, 2023 is primarily due to decreases in personnel-related costs, NL-201 clinical costs, preclinical costs, and lab supplies expenses.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel-related costs (including stock-based compensation, severance expenses, and travel expenses), facility-related costs, insurance, and professional fees for consulting, legal, and accounting services.

For the three months ended June 30, 2023, general and administrative expenses were $3.5 million, compared to $4.9 million for the three months ended June 30, 2022. The decrease in general and administrative expenses during the three months ended June 30, 2023 was primarily due to a decrease in personnel-related costs. The decrease is partially offset by increases in legal expenses associated with Neoleukin's focus on strategic alternatives and increases in facility lease expenses due to such expense being captured in general and administrative expenses as a result of the decision in March 2023 to suspend Neoleukin's research and development activities.

For the six months ended June 30, 2023, general and administrative expenses were $7.5 million, compared to $9.6 million for the six months ended June 30, 2022. The decrease in general and administrative expenses during the six months ended June 30, 2023 was primarily due to decreases in personnel-related costs. The decrease is partially offset by increases in legal expenses associated with Neoleukin's focus on strategic alternatives and increases in facility lease expenses due to such expense being captured in general and administrative expenses beginning in the second quarter of 2023 as a result of the decision in March 2023 to suspend Neoleukin's research and development activities.

Impairment on Property and Equipment

In connection with the March 2023 Restructuring Plan (as defined below), Neoleukin determined that sufficient indicators existed to trigger the performance of an interim long-lived asset impairment analysis as of March 31, 2023. Neoleukin recorded an impairment charge on Neoleukin's property and equipment of $3.4 million for the six months ended June 30, 2023. No impairment charges were recorded during the three and six months ended June 30, 2022.

Workforce Reductions

On November 14, 2022, Neoleukin announced a corporate restructuring as a result of the strategic decision to discontinue further development of NL-201. In conjunction with this decision, Neoleukin's board of directors approved a restructuring plan that included a reduction of approximately 40% of Neoleukin's workforce (the "November 2022 Reduction").

In connection with the November 2022 Reduction, Neoleukin incurred aggregate restructuring charges consisting of severance payments, benefits, and other employee-related costs of $1.7 million, of which $1.4 million was recognized during the fourth quarter of 2022. The remaining $0.3 million was incurred during the six months ended June 30, 2023, all of which is included in research and development expenses in the statement of operations and comprehensive income (loss). Neoleukin expects to pay all remaining restructuring charges associated with the November 2022 Reduction by the end of the third quarter of 2023.

On March 6, 2023, Neoleukin's board of directors approved a reduction in force of Neoleukin's workforce by approximately 70% and a re-prioritization of Neoleukin's focus to seek strategic alternatives to maximize stockholder value (the "March 2023 Restructuring Plan").

In connection with the March 2023 Restructuring Plan, Neoleukin incurred additional aggregate restructuring charges consisting of severance payments, benefits, and other employee-related costs of $1.8 million during the six months ended June 30, 2023. Of the $1.8 million of restructuring charges incurred during the six months ended June 30, 2023, $0.6 million is included in general and administrative expenses and $1.2 million is included in research and development expenses in the condensed statement of operations and comprehensive income (loss). Neoleukin expects to pay all remaining restructuring charges associated with the March 2023 Restructuring Plan by the end of the first quarter of 2024.

Interest Income

Interest income during the three months ended June 30, 2023 was $1.0 million as compared to $0.2 million during the three months ended June 30, 2022. Interest income during the six months ended June 30, 2023 was $1.9 million as compared to $0.2 million during the six months ended June 30, 2022. The increase during the three and six months ended June 30, 2023 is due to broad increases in the interest rate environment resulting in higher interest earned on Neoleukin's money market fund investments. Additionally, the increase is due to purchases of U.S. treasury securities beginning in the second quarter of 2022, which yield a higher rate of interest than investments in money market funds.

Liquidity and Capital Resources

Since Neoleukin's inception, Neoleukin has incurred net losses and negative cash flows from Neoleukin's operations. Neoleukin's operating activities used $17.1 million and $25.4 million of cash flows during the six months ended June 30, 2023 and 2022, respectively. As of June 30, 2023, Neoleukin had an accumulated deficit of $467.3 million, working capital of $78.9 million, and cash, cash equivalents, and short-term investments of $82.1 million. Neoleukin believes that its existing cash, cash equivalents, and short-term investments will be sufficient to fund its planned operations for 12 months from the filing date of Neoleukin's Quarterly Report on Form 10-Q for the quarter ended June 30, 2023. If unanticipated difficulties or circumstances arise, and depending on the ultimate outcome of the Merger, Neoleukin may require additional capital sooner to support its operations. If Neoleukin is unable to complete the Merger or raise additional capital when necessary, it may be forced to further decelerate or curtail its operations until such time as additional capital becomes available, which could have a material adverse effect on it and its financial statements. There can be no assurance that management's plans will be successful. There is no assurance that Neoleukin will complete the Merger or that additional financing will be available when needed or that it will be able to obtain such financing on reasonable terms.

On November 4, 2021, Neoleukin entered into an "at-the-market" ATM Equity Offering Sales Agreement (the "Sales Agreement"), with BofA Securities, Inc. ("BofA"), pursuant to which Neoleukin may, but is not obligated to, offer and sell, from time to time, shares of Neoleukin's common stock with an aggregate offering price up to $40.0 million through BofA, as sales agent. No sales of Neoleukin's common stock have been made pursuant to this Sales Agreement to date. As of March 20, 2023, Neoleukin is subject to limitations on the amount of funds Neoleukin can raise by selling shares of Neoleukin's common stock using Neoleukin's Form S-3, including sales under the Sales Agreement, to one-third of the aggregate market value of the shares of Neoleukin's common stock held by non-affiliates, or public float, due to the so-called "baby shelf" requirements set forth in the SEC general instructions of Form S-3. These restrictions will remain in place until such time as Neoleukin's public float exceeds $75 million.

Cash Flows

The following table summarizes Neoleukin's cash flows for the six months ended June 30, 2023 and 2022:

	Six Months Ended June 30,	
(in thousands)	**2023**	**2022**
Net cash (used in) provided by:		
Operating activities	$(17,082)	$(25,385)
Investing activities	10,295	(39,751)
Financing activities	(360)	195
Net change in cash, cash equivalents, and restricted cash	$ (7,147)	$(64,941)

Net cash used in operating activities

Net cash used in operating activities for the six months ended June 30, 2023 and June 30, 2022 consisted of net loss for the period adjusted for non-cash items and changes in components of operating assets and liabilities. For the six months ended June 30, 2023, a net loss of $16.3 million was adjusted for non-cash items including impairment on property and equipment of $3.4 million, stock-based compensation expense of $1.5 million, accretion of premiums on available-for-sale securities (net of amortization of discounts) of $1.2 million and a net decrease of $5.5 million due to changes in operating assets and liabilities. For the six months ended June 30, 2022, a net loss of $31.0 million was adjusted for non-cash items including stock-based compensation expense of $4.8 million and a net decrease of $0.5 million due to changes in operating assets and liabilities.

Net cash used in investing activities

For the six months ended June 30, 2023, net cash provided by investing activities consisted primarily of proceeds from the maturities of Neoleukin's available-for-sale securities of $64.0 million and from the sale of property and equipment of $2.1 million, partially offset by purchases of available-for-sale securities of $55.3 million. For the six months ended June 30, 2022, net cash used in investing activities consisted primarily of purchases of available-for-sale securities of $39.1 million and laboratory equipment of $0.7 million.

Net cash provided by financing activities

For the six months ended June 30, 2023 net cash used in financing activities consisted of payments on Neoleukin's finance lease obligations. For the six months ended June 30, 2022, net cash provided by financing activities consisted primarily of proceeds from stock option exercises and purchases of common stock under Neoleukin's 2020 Employee Stock Purchase Plan.

Comparison of Fiscal Years Ended December 31, 2022 and 2021

Operating Expenses

The following table summarizes Neoleukin's operating expenses for the years ended December 31, 2022 and 2021 (in thousands):

	Years Ended December 31,			
	2022	2021	$ Change	% Change
Research and development	$41,129	$39,162	$ 1,967	5%
General and administrative	17,968	21,536	(3,568)	(17)%
Total operating expenses	$59,097	$60,698	$ (1,601)	(3)%

Research and Development Expenses

Research and development expenses consisted primarily of costs incurred under arrangements with third parties, such as CROs, manufacturing organizations, and consultants, personnel related costs (including stock-based compensation and travel expenses), facility-related costs, and lab supplies.

Research and development expenses for the year ended December 31, 2022 were $41.1 million compared to $39.2 million for the year ended December 31, 2021. The increase in research and development expenses during the year ended December 31, 2022 was due to increased expenses incurred from Neoleukin's NL-201 clinical trial, as well as restructuring charges incurred in 2022, discussed further below. These increases were partially offset by decreases in NL-CVX1 costs due to the suspension of this program in June 2021, as well as decreases in NL-201 manufacturing costs.

General and Administrative Expenses

General and administrative expenses consisted primarily of personnel related costs (including stock-based compensation and travel expenses), facility-related costs, insurance, and professional fees for consulting, legal, and accounting services. For the year ended December 31, 2022, general and administrative expenses were $18.0 million compared to $21.5 million for the year ended December 31, 2021. The decrease in general and administrative expenses during the year ended December 31, 2022 was primarily due to decreases in personnel-related costs.

Workforce Reduction

Of the $1.8 million Neoleukin expected to incur in aggregate restructuring charges consisting of severance payments, benefits, and other employee related costs in connection with the November Reduction, $1.4 million was incurred during the year ended December 31, 2022. Of the $1.4 million of restructuring charges incurred during the year ended December 31, 2022, $0.2 million is included in general and administrative expenses and $1.2 million is included in research and development expenses in the statement of operations and comprehensive income. Neoleukin expects to pay all remaining restructuring charges by the end of the third quarter of 2023.

Interest Income

Interest income during the year ended December 31, 2022 was $1.6 million as compared to $19.0 thousand during the year ended December 31, 2021. The increase during the year ended December 31, 2022 was due to broad increases in the interest rate environment resulting in higher interest earned on Neoleukin's investments in money market funds and U.S. treasury securities.

Liquidity and Capital Resources

Since its inception, Neoleukin has incurred net losses and negative cash flows from its operations and relied upon sales of common and preferred stock to fund its operations. Neoleukin's operating activities used $45.6 million and $47.6 million during the years ended December 31, 2022 and 2021, respectively. As of December 31, 2022, Neoleukin had an accumulated deficit of $451.1 million, working capital of $88.1 million, and cash, cash equivalents, and short-term investments of $96.4 million. If unanticipated difficulties or circumstances arise, and depending on the ultimate outcome of the Merger, Neoleukin may require additional capital sooner to support its operations. If Neoleukin is unable to complete the Merger or raise additional capital when necessary, it may be forced to further decelerate or curtail its operations until such time as additional capital becomes available, which could have a material adverse effect on it and its financial statements. There can be no assurance that management's plans will be successful. There is no assurance that Neoleukin will complete the Merger or that additional financing will be available when needed or that it will be able to obtain such financing on reasonable terms.

On November 4, 2021, Neoleukin entered into the Sales Agreement with BofA, pursuant to which Neoleukin may, but is not obligated to, offer and sell, from time to time, shares of its common stock with an aggregate offering price up to $40.0 million through BofA, as sales agent. No sales of common stock have been made pursuant to this Sales Agreement to date.

Cash Flows

The following table summarizes Neoleukin's cash flows for the years ended December 31, 2022 and 2021 (in thousands):

	Years Ended December 31,	
	2022	2021
Net cash (used in) provided by:		
Operating activities	$ (45,607)	$(47,558)
Investing activities	(59,134)	(3,263)
Financing activities	161	732
Net change in cash, cash equivalents and restricted cash	$(104,580)	$(50,089)

Net cash used in operating activities

Net cash used in operating activities for the years ended December 31, 2022 and December 31, 2021 consisted of net loss for the period adjusted for non-cash items and changes in components of operating assets

and liabilities. For the year ended December 31, 2022, a net loss of $57.6 million was adjusted for non-cash items of $11.1 million, including stock-based compensation expense of $8.8 million, and a net increase of $0.9 million due to changes in operating assets and liabilities. For the year ended December 31, 2021, a net loss of $60.7 million was adjusted for non-cash items of $13.8 million, including stock-based compensation expense of $11.6 million, and a net decrease of $0.7 million due to changes in operating assets and liabilities.

Net cash used in investing activities

For the year ended December 31, 2022, cash used in investing activities consisted primarily of purchases of available-for-sale securities, net of maturities, and acquisitions of laboratory equipment. For the year ended December 31, 2021, cash used in investing activities consisted primarily of purchases of laboratory equipment and office furnishings.

Net cash provided by financing activities

For the years ended December 31, 2022 and December 31, 2021, net cash provided by financing activities consisted primarily of proceeds from stock option exercises and Neoleukin's 2020 Employee Stock Purchase Plan.

Operating and Capital Expenditure Requirements

Neoleukin has not generated product revenue or achieved profitability since its inception and expects to continue to incur net losses for the foreseeable future. As of December 31, 2022, Neoleukin had approximately $96.4 million in cash, cash equivalents, and short-term investments. Based on its current business plans, Neoleukin believes that its existing cash, cash equivalents, and short-term investments will be sufficient to fund its planned operations. However, Neoleukin's future capital requirements and the period for which it expects its existing resources to support its operations, fund expansion, develop new or enhanced products, or otherwise respond to competitive pressures, may vary significantly from its expectation and Neoleukin may need to seek additional funds sooner than planned. Unless and until Neoleukin generates sufficient revenue to be profitable, Neoleukin will seek to fund its operations through public or private equity or debt financings or other sources. If Neoleukin raises additional funds through the issuance of convertible debt securities, these securities could have rights senior to those of Neoleukin's common stock and could contain covenants that restrict its operations. There can be no assurance that Neoleukin will be able to obtain additional equity or debt financing on terms acceptable to it, if at all. Neoleukin's failure to obtain sufficient funds on acceptable terms when needed could have a negative impact on its business, results of operations, financial condition, cash flows and future prospects. Neoleukin's future capital requirements will depend on many factors, including:

- Neoleukin's ability to complete the Merger;
- the number and characteristics of any future product candidates Neoleukin develop or may acquire;
- the scope, progress, results and costs of researching and developing Neoleukin's product candidates or any future product candidates, and conducting preclinical studies and clinical trials;
- the timing of, and the costs involved in, obtaining regulatory approvals for any future product candidates;
- the cost of manufacturing any future product candidates and any products that may achieve regulatory approval;
- the cost of commercialization activities if any future product candidates are approved for sale, including marketing, sales, and distribution costs;
- the timing, receipt and amount of sales of, or royalties on, future approved products, if any;
- Neoleukin's ability to establish and maintain strategic collaborations, licensing or other arrangements and the financial terms of such agreements;

- any product liability or other lawsuits related to Neoleukin's products;
- the expenses needed to attract and retain skilled personnel; and
- the costs involved in preparing, filing, prosecuting, maintaining, defending, and enforcing patent claims, including litigation costs and the outcome of such litigation.

If Neoleukin is unable to timely complete the Merger, Neoleukin would likely pursue other strategic alternatives, such as equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements.

Contractual Obligations and Commitments

The following is a summary of Neoleukin's long-term contractual cash obligations as of December 31, 2022 (in thousands):

	TOTAL	2023	2024	2025	2026	2027	Thereafter
Operating lease obligations (1)	$16,542	$2,718	$2,781	$2,845	$2,806	$2,557	$ 2,835
Finance lease obligations	417	173	109	109	26	—	—
	$16,959	$2,891	$2,890	$2,954	$2,832	$2,557	$ 2,835

1. Operating lease obligations reflect remaining minimum commitments for Neoleukin's office and laboratory spaces in Seattle, Washington.

Neoleukin enters into contracts in the normal course of business with CROs for clinical and preclinical research studies, external manufacturers for product for use in ITS clinical trials, and other research supplies and other services as part of ITS operations. These contracts generally provide for termination on notice, and therefore are cancelable contracts and not included in the table of contractual obligations and commitments.

Milestone, Royalty-Based, and Other Commitments

Neoleukin has an exclusive license agreement with UW, under which UW (on behalf of itself and Stanford University) granted it an exclusive worldwide license under certain patent rights, to make, have made, use, offer to sell, sell, offer to lease, lease, import, export or otherwise offer to dispose of licensed products in all fields of use, and a nonexclusive worldwide license to use certain know-how. The foregoing licenses are sublicensable without UW's consent, subject to certain limited conditions.

As consideration for the licensed rights, Former Neoleukin issued shares of common stock to UW, which upon the Aquinox Merger were exchanged for 188,974 shares of Neoleukin's common stock and 4,197 shares of Neoleukin's non-voting convertible preferred stock. Such convertible preferred shares were subsequently converted into 419,700 shares of Neoleukin's common stock in November 2019.

Furthermore, Neoleukin is required to pay; (i) an annual maintenance fee beginning in January 2022 (but excluding any year in which minimum annual royalties are paid); (ii) up to $0.9 million in combined development and regulatory milestone payments with respect to each distinct class of licensed product; (iii) up to $10.0 million in combined commercial milestone payments based on cumulative net sales of licensed products within each distinct class of licensed products, beginning when cumulative net sales of the class of licensed products equals or exceeds $100.0 million, with the majority payable when cumulative net sales of the class of licensed products equals or exceeds $1.0 billion; (iv) a low single-digit royalty on net sales of licensed products sold by Neoleukin and its sublicensees, which may be subject to reductions, and subject to minimum annual royalty payments following the first commercial sale of a licensed product; (v) a certain percentage of any sublicense consideration (other than royalties) Neoleukin receives from sublicensees, based on the stage of development at the time the sublicense is executed; and (vi) a certain percentage of consideration Neoleukin

receives from an acquisition of it or its assets based on the stage of development at the relevant time. Neoleukin is obligated to pay royalties on a country-by-country basis until the expiration of the last valid claim within the licensed patent rights in such country.

Critical Accounting Policies and Significant Judgments and Estimates

The preparation of Neoleukin's financial statements in accordance with U.S. GAAP requires it to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses and the disclosure of contingent assets and liabilities in its financial statements. Neoleukin evaluates its estimates and judgments on an ongoing basis. It bases its estimates on historical experience, known trends and events and various other factors that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Neoleukin believes the following accounting policies to be most critical to the judgments and estimates used in the preparation of its financial statements.

Research and Development Expenses

Research and development costs are charged to expense as incurred and include, but are not limited to, employee-related expenses, including salaries, benefits, and stock-based compensation, expenses incurred under agreements with CROs that conduct clinical trials and preclinical studies, the cost of acquiring, developing and manufacturing clinical trial materials, costs incurred in relation to purchase of technology licenses and patent rights, facilities and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, and other supplies and costs associated with clinical trials, preclinical activities, and regulatory operations.

Development costs are expensed in the period incurred unless Neoleukin believes a development project meets generally accepted accounting criteria for deferral and amortization. No product development expenditures have been deferred to date. Neoleukin records costs for certain development activities based on its evaluation of the progress to completion of specific tasks or information provided to it by its vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the financial statements as prepaid or accrued liabilities.

Stock-Based Compensation

Neoleukin measures the cost of services received in exchange for an award of equity instruments based on the grant-date fair value of the award. The cost of such award will be recognized over the period during which services are provided in exchange for the award, generally the vesting period. Share-based payments vest either upon service or performance conditions. Neoleukin accounts for forfeitures as they occur. All share-based payments to employees are recognized in the financial statements based upon their respective grant-date fair values.

Neoleukin estimates the fair value of options granted using the Black-Scholes option pricing model. This technique uses assumptions regarding a number of inputs that required it to make significant estimates and judgments, including the expected term of the options. Neoleukin also makes decisions regarding the method of calculating the expected stock price volatility and the risk-free interest rate used in the model. The expected volatility assumption is based on industry peer information and Neoleukin expects to continue to do so until it has adequate and relevant historical volatility of its common stock. Additionally, because Neoleukin has no significant history to calculate the expected term, the simplified method calculation is used.

There is inherent uncertainty in Neoleukin's forecasts and projections and, if it had made different assumptions and estimates than those described previously, the amount of its stock-based compensation expense, net loss and net loss per common stock amounts could have been materially different.

NEUROGENE MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of Neurogene's financial condition and results of operations together with the section entitled "Neurogene's Business" and Neurogene's audited financial statements, unaudited financial statements and the related notes appearing elsewhere in this proxy statement/prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this proxy statement/prospectus, including information with respect to Neurogene's plans and strategy for its business, includes forward-looking statements that involve risks, uncertainties, and assumptions. As a result of many factors, including those factors set forth in the section entitled "Risk Factors—Risks Related to Neurogene," Neurogene's actual results could differ materially from the results described in or implied by these forward-looking statements. You should carefully read the section entitled "Risk Factors—Risks Related to Neurogene" to gain an understanding of the factors that could cause actual results to differ materially from Neurogene's forward-looking statements. Please also see the section entitled "Cautionary Note Regarding Forward-Looking Statements."

Overview

Despite recent scientific advances in genetics, most neurological diseases, particularly those with devastating consequences to patients, are left untreated. Conventional gene therapy is an attractive potential treatment approach for only a limited number of monogenic diseases due to the challenges caused by the complex biology of neurological diseases and by inherent variable transgene uptake and expression. Neurogene is a clinical-stage biotechnology company committed to overcoming these limitations and turning today's complex devastating neurological diseases into treatable conditions. By harnessing Neurogene's proprietary transgene regulation technology, EXACT ("Expression Attenuation via Construct Tuning"), Neurogene is building a robust and differentiated product portfolio of genetic medicines for rare neurological diseases with high unmet need not otherwise addressable by conventional gene therapy. Neurogene's EXACT approach leverages key scientific breakthroughs, including gene transfer technology, microRNA-based genetic circuits, and adeno-associated virus delivery, and is designed to deliver therapeutic levels of transgene to key areas of the brain that underlie neurological disease pathology.

Neurogene's first clinical-stage program to utilize the EXACT platform is NGN-401, which is under development for the treatment of Rett syndrome, a disease with a patient population that has a significant unmet need, and that ultimately progresses to substantial neurological and physical impairment and premature death. In January 2023, Neurogene received clearance from the U.S. Food and Drug Administration ("FDA") for its investigational new drug ("IND") application for a Phase 1/2 clinical trial of NGN-401 for the treatment of pediatric female patients. The Phase 1/2 clinical trial is an open-label, single-arm, multi-center clinical trial that will assess the safety, tolerability, and efficacy of a single dose of NGN-401 delivered using a one-time intracerebral ventricular ("ICV") procedure, which Neurogene believes is the most suitable route of administration to achieve optimal biodistribution in key regions of the brain. NGN-401 was manufactured at Neurogene's manufacturing facility and clinical-grade product is available for dosing in the Phase 1/2 clinical trial. Neurogene expects preliminary clinical data from the first cohort of patients in this study in the fourth quarter of 2024 and an updated dataset from an expanded number of patients in the second half of 2025.

Neurogene believes that its EXACT platform has broad applicability in complex neurological diseases not otherwise easily addressable by conventional gene therapy. In addition to its Rett syndrome program, Neurogene has multiple early-stage programs in the discovery stage. Neurogene anticipates advancing one program into clinical development in 2025.

In addition to NGN-401, Neurogene is also pursuing a conventional gene therapy program in an ongoing Phase 1/2 clinical trial of NGN-101 for the treatment of CLN5 Batten disease. This patient population has a significant unmet need, and experiences extensive neurological and physical impairment leading to blindness, loss of motor function and early mortality. Neurogene's Phase 1/2 clinical trial of NGN-101 is the first trial to

assess the treatment of both neurodegenerative and ocular disease manifestations of Batten disease. A third-party manufacturer produced product for the NGN-101 program to initiate the Phase 1/2 clinical trial. Dosing for this program commenced in the second quarter of 2022, and Neurogene expects preliminary data in the second half of 2024.

Neurogene also established a fully operational current Good Manufacturing Practice ("cGMP") facility in Houston, Texas used to manufacture current and future product for research, toxicology and clinical studies. Neurogene believes that its in-house manufacturing capabilities enable control of product quality and development timelines, strategic pipeline and financial flexibility, as well as clinical-to-commercial continuity.

Background

Neurogene was founded in 2018, and has devoted substantially all of its resources to conducting research and development activities (including with respect to the NGN-401 and NGN-101 programs) and undertaking preclinical studies, establishing its manufacturing facility, conducting clinical trials and the manufacturing of product used in its clinical trials and preclinical studies, business planning, developing and maintaining its intellectual property portfolio, hiring personnel, raising capital, and providing general and administrative support for these activities.

Since its inception, Neurogene has funded its operations primarily with outside capital (e.g., proceeds from the sale of preferred stock) and has raised aggregate net proceeds of $244.4 million from these private placements. However, Neurogene has incurred significant recurring losses, including a net loss of $24.1 million for the six months ended June 30, 2023 and $55.2 million and $50.5 million for the years ended December 31, 2022 and 2021, respectively. In addition, Neurogene had an accumulated deficit of $175.0 million as of June 30, 2023. As of June 30, 2023, Neurogene had cash and cash equivalents of $59.0 million. In order to continue its operations, Neurogene must achieve profitable operations and/or obtain additional equity or debt financing. Until Neurogene achieves profitability, management plans to fund its operations and capital expenditures with cash on hand and the sale and issuance of securities, including any proceeds from the Neurogene pre-closing financing. There can be no assurance that Neurogene will be successful in raising additional capital or that such capital, if available, will be on terms that are acceptable to Neurogene. If Neurogene is unable to raise sufficient additional capital, it may be compelled to consider actions such as reducing the scope of its operations and planned capital expenditures or sell certain assets, including intellectual property assets.

Neurogene's net losses may fluctuate significantly from quarter-to-quarter and year-to-year, depending on a variety of factors, including the timing, scope and results of its research and development activities. Management expects that Neurogene's expenses and capital requirements will increase substantially in connection with its ongoing activities as it:

- advances the NGN-401 and NGN-101 programs through clinical development, including in any additional indications;
- advances discovery programs from preclinical development into and through clinical development;
- seeks regulatory approvals for any product candidates that successfully complete clinical trials;
- establishes sales, marketing and distribution infrastructure to commercialize any approved product candidates;
- establishes a commercialization infrastructure and scale up internal and external manufacturing and distribution capabilities to commercialize any product candidates for which Neurogene may obtain regulatory approval
- expands clinical, scientific, management and administrative teams;
- maintains, expands, protects and enforce its intellectual property portfolio, including patents, trade secrets and know-how;

- implements operational, financial and management systems; and
- incurs additional legal, accounting and other expenses related to operating as a public company.

Neurogene does not have any products approved for commercial sale and has not generated any commercial revenue from product sales. Its ability to generate product revenue sufficient to achieve and maintain profitability will depend upon the successful development and eventual commercialization of one or more of its product candidates, which Neurogene expects, if it ever occurs, will take many years. Neurogene expects to spend a significant amount in development and marketing costs prior to such time. Neurogene will therefore require substantial additional capital to develop its product candidates and support its continuing operations. Neurogene may never succeed in achieving regulatory and marketing approval for its product candidates. Neurogene may obtain unexpected results from its preclinical and clinical trials. Neurogene may elect to discontinue, delay, or modify preclinical and clinical trials of its product candidates. A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. Accordingly, until such time that Neurogene can generate a sufficient amount of revenue from product sales or other sources, if ever, management expects to finance Neurogene's operations through private or public equity or debt financings, loans or other capital sources, which could include income from collaborations, partnerships or other marketing, distribution, licensing or other strategic arrangements with third parties, or from grants. However, Neurogene may be unable to raise additional capital from these sources on favorable terms, or at all. Its failure to obtain sufficient capital on acceptable terms when needed could have a material adverse effect on Neurogene's business, results of operations or financial condition, including requiring Neurogene to delay, reduce or curtail its research, product development or future commercialization efforts. Neurogene may also be required to license rights to product candidates at an earlier stage of development or on less favorable terms than it would otherwise choose. Neurogene's management cannot provide assurance that Neurogene will ever generate positive cash flow from operating activities. See "*—Liquidity and Capital Resources*."

In December 2020, Neurogene entered into a research collaboration with the University of Edinburgh to support its pipeline development and expansion, and to accelerate scientific innovation to continue to improve upon conventional gene therapy. The University of Edinburgh has a vibrant community of over 500 neuroscience researchers and is widely recognized as a preeminent center for neuroscience research, especially in areas of neurodegeneration and in neurodevelopmental disorders, such as Rett syndrome. For example, researchers currently in neuroscience centers at the University of Edinburgh conducted the seminal preclinical work for Rett syndrome, including discovery of the MECP2 protein, its function as a transcriptional repressor, developing the first and most widely adopted animal model of Rett syndrome, demonstrating for the first time, the reversibility of phenotypes in any neurodevelopmental disorder as well as the first ever preclinical gene therapy efforts in Rett syndrome. Under the terms of the agreement, Neurogene has the option to in-license product candidates from Dr. Stuart Cobb's laboratory, where he has a dual appointment as a Professor in Translational Neuroscience at the Patrick Wild Centre and Centre for Discovery Brain Sciences and serves as Neurogene's Chief Scientific Officer.

Recent Developments

Proposed Merger

On July 17, 2023, Neurogene entered into the Merger Agreement with Neoleukin and Merger Sub. Pursuant to the Merger Agreement, among other matters, and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly-owned subsidiary of Neoleukin, and Neoleukin being the surviving corporation of the merger, which will be renamed Neurogene Inc. The merger is intended to qualify for U.S. federal income tax purposes as a tax-free reorganization under the provisions of Section 368(a) of the Code. The Merger Agreement and the merger were approved by the members of the board of directors of both Neurogene and Neoleukin.

Subject to the terms and conditions of the Merger Agreement, at the closing of the merger, (a) each outstanding share of Neurogene capital stock (including shares of Neurogene common stock, Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing financing) will be converted solely into the right to receive a number of shares of Neoleukin common stock or Neoleukin pre-funded warrants, as elected by the Neurogene stockholder and calculated in accordance with the Merger Agreement, (after giving effect to the reverse stock split) equal to the exchange ratio set forth in the Merger Agreement; (b) each outstanding Neurogene pre-funded warrant will be automatically converted into and exchanged for a Neoleukin pre-funded warrant entitling such holder of Neurogene pre-funded warrant to purchase shares of Neoleukin common stock equal to the product of the number of shares of Neurogene common stock that would have been issuable upon exercise of the Neurogene pre-funded warrant and the exchange ratio; and (c) each then-outstanding and unexercised option to purchase shares of Neurogene common stock immediately prior to the effective time will be assumed by Neoleukin and will be converted into an option to purchase shares of Neoleukin's common stock, with necessary adjustments to the number of shares and exercise price to reflect the exchange ratio.

Under the exchange ratio formula in the Merger Agreement, as of immediately after the merger, pre-merger Neurogene stockholders, including purchasers of Neurogene common stock and Neurogene pre-funded warrants in the Neurogene pre-closing financing, are currently estimated to own approximately 84% of the outstanding shares of capital stock of the combined company, and pre-merger stockholders of Neoleukin are currently estimated to own approximately 16% of the outstanding shares of capital stock of the combined company, calculated using the TSM and subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being at least $66.0 million.

Pre-Closing Financing

Concurrently with the execution of the Merger Agreement, and in order to provide Neurogene with additional capital for its development programs prior to the closing of the merger, certain new and current investors have agreed to purchase an aggregate of 38,177,770 shares of Neurogene's common stock and pre-funded warrants to acquire approximately 16,421,271 shares of Neurogene's common stock, for an aggregate amount of approximately $95.0 million, in the Neurogene pre-closing financing. The board of directors of both Neoleukin and Neurogene have approved the proposed transaction. Completion of the transaction, which is expected by the fourth quarter of 2023, is subject to approval of the merger by Neoleukin's and Neurogene's stockholders and the satisfaction or waiver of the closing conditions of the merger and certain other customary closing conditions.

Impact of Global Economic Events

Uncertainty in the global economy presents significant risks to Neurogene's business. Neurogene is subject to continuing risks and uncertainties in connection with the current macroeconomic environment, including increases in inflation, rising interest rates, changes in foreign currency exchange rates, recent bank failures, geopolitical factors, including the ongoing conflict between Russia and Ukraine and the responses thereto, and supply chain disruptions. While management is closely monitoring the impact of the current macroeconomic conditions on all aspects of Neurogene's business, including the impacts on its participants in its Phase 1/2 clinical trials, employees, suppliers, vendors and business partners, the ultimate extent of the impact on Neurogene's business remains highly uncertain and will depend on future developments and factors that continue to evolve. Most of these developments and factors are outside Neurogene's control and could exist for an extended period of time. Management will continue to evaluate the nature and extent of the potential impacts to Neurogene's business, results of operations, liquidity and capital resources. For additional information, see the section entitled "*Risk Factors—Risks Related to Neurogene*."

Components of Results of Operations

Revenue

To date, Neurogene has not recognized any revenue from any sources, including from product sales, and Neurogene does not expect to generate any revenue from the sale of products in the foreseeable future. If Neurogene's development efforts for its product candidates are successful and result in regulatory approval, or if Neurogene successfully licenses its products to third parties, Neurogene may generate revenue in the future from product sales or licensing revenue, as applicable. However, there can be no assurance as to when Neurogene will generate such revenue, if at all.

Operating Expenses

Research and Development Expenses

Research and development expenses consist primarily of costs incurred in connection with the discovery and development of Neurogene's product candidates. Neurogene expenses research and development costs as incurred, including:

- expenses incurred to conduct the necessary discovery-stage laboratory work, preclinical studies and clinical trials required to obtain regulatory approval;
- acquired licenses and intellectual property that are accounted for as asset acquisitions and have no alternative future use;
- personnel expenses, including salaries, benefits and stock-based compensation expense for Neurogene's employees engaged in research and development functions;
- costs of funding research performed by third parties, including pursuant to agreements with clinical research organizations ("CROs") that conduct Neurogene's clinical trials, as well as investigative sites, consultants and CROs that conduct Neurogene's preclinical and nonclinical studies;
- expenses incurred under agreements with Neurogene's third-party contract development and manufacturing organizations ("CDMOs"), as well as internal manufacturing scale-up expenses, including the cost of acquiring and manufacturing preclinical study and clinical trial materials;
- fees paid to consultants who assist with research and development activities;
- expenses related to regulatory activities, including filing fees paid to regulatory agencies; and
- allocated expenses for facility costs, including rent, utilities, depreciation and maintenance.

Before a product receives regulatory approval, Neurogene records upfront and milestone payments to third parties under licensing arrangements as expense, provided that there is no alternative future use of the rights in other research and developments projects.

Non-refundable prepayments for research and development costs that are paid in advance of performance are capitalized as a prepaid expense and amortized over the service period as the services are provided. Costs for certain development activities, such as outside research programs funded by Neurogene, are recognized based on an evaluation of the progress to completion of specific tasks with respect to their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the financial statements as prepaid or accrued research and development expense as applicable.

Neurogene tracks outsourced development costs and other external research and development costs to specific product candidates on a program-by-program basis, including fees paid to CROs, CDMOs and research laboratories in connection with Neurogene's preclinical development, process development, and clinical development activities. Neurogene also incurs personnel and other operating expenses for research and development programs, which are presented in aggregate.

Research and development activities are central to Neurogene's business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. Neurogene expects its research and development expenses to increase significantly over the next several years as it increases personnel costs, including stock-based compensation, conducts clinical trials, including later-stage clinical trials for current and future product candidates, and prepares regulatory filings for its product candidates.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel expenses, including salaries, benefits and stock-based compensation expense, for employees and consultants in executive, finance and accounting, legal, operations support, information technology and human resource functions. General and administrative expenses also include corporate facility costs not otherwise included in research and development expense, including rent, utilities, depreciation and maintenance, as well as legal fees related to intellectual property and corporate matters and fees for accounting and consulting services.

Neurogene expects that its general and administrative expense will increase in the future to support its continued research and development activities, potential commercialization efforts and increased costs of operating as a public company. These increases will likely include increased costs related to the hiring of additional personnel and fees to outside consultants, legal support and accountants, among other expenses. Additionally, Neurogene anticipates increased costs associated with being a public company, including expenses related to services associated with maintaining compliance with the requirements of Nasdaq and the SEC, insurance and investor relations costs. If any of Neurogene's current or future product candidates obtains U.S. regulatory approval, Neurogene expects that it would incur significantly increased expenses associated with building a sales and marketing team, as well as an expanded regulatory and compliance function.

Interest Income

Interest income consists primarily of interest earned on Neurogene's cash equivalents. Neurogene expects its interest income to fluctuate depending on interest rates and the amount of cash that is invested.

Income Taxes

Since inception, Neurogene has not recorded any income tax benefits for net operating losses ("NOLs") Neurogene has incurred for Neurogene's research and development tax credits, as Neurogene believes, based upon the weight of available evidence, that it is more likely than not that all of Neurogene's NOLs and tax credits will not be realized. Accordingly, Neurogene has established a valuation allowance against such deferred tax assets for all periods since inception.

Neurogene assesses its income tax positions and records tax benefits based upon management's evaluation of the facts, circumstances, and information available at the reporting date. For those tax positions where it is more likely than not that a tax benefit will be sustained, Neurogene records the amount of tax benefit with a greater than 50 percent likelihood of being realized upon ultimate settlement with a taxing authority having full knowledge of all relevant information. For those income tax positions for which it is not more likely than not that a tax benefit will be sustained, no tax benefit is recognized in the financial statements

As of December 31, 2022, Neurogene had federal and state NOL carryforwards in the amount of $110.5 million and $36.0 million, respectively, which may be available to offset future taxable income. The state NOL carryforwards begin expiring at various dates through 2041, unless previously utilized. All federal NOL carryforwards were generated subsequent to January 1, 2018 and therefore are able to be carried forward indefinitely. As of December 31, 2022, Neurogene also had federal research tax credit and federal orphan drug tax credit carryforwards of $2.9 million and $0.7 million, respectively, which may be used to offset future tax liabilities. These tax credit carryforwards expire at various dates through 2042, unless previously utilized.

Results of Operations

Comparison of the Three Months Ended June 30, 2023 and 2022

The following table summarizes Neurogene's results of operations for the periods indicated:

(in thousands)	Three Months Ended June 30, 2023	2022	Change
Operating expenses:			
Research and development	$ 10,321	$ 13,173	$(2,852)
General and administrative	2,275	2,241	34
Total operating expenses	12,596	15,414	(2,818)
Loss from operations	(12,596)	(15,414)	2,818
Other income (expense):			
Interest income, net	743	169	574
Interest expense	(3)	—	(3)
Other Expense	(4)	—	(4)
Net loss	$(11,860)	$(15,245)	$ 3,385

Research and Development Expenses

The following table summarizes Neurogene's research and development expenses for the periods indicated:

(in thousands)	Three Months Ended June 30, 2023	2022	Change
Program specific expenses:			
Rett syndrome	$ 1,466	$ 971	$ 495
Batten disease	1,307	2,170	(863)
Early Discovery	494	231	263
Discontinued Programs	161	1,807	(1,646)
Unallocated internal expenses:			
Personnel-related	3,509	4,269	(760)
Share-based compensation	241	176	65
Manufacturing	2,803	2,742	61
Other	340	807	(467)
Total research and development expenses	$10,321	$13,173	$(2,852)

Research and development expenses were $10.3 million for the three months ended June 30, 2023, as compared to $13.2 million for the three months ended June 30, 2022, a decrease of $2.9 million.

Expenses related to the Rett syndrome program increased primarily due to a $1.1 million increase in clinical trial costs related to study start-up costs for the phase 1/2 clinical trial of NGN-401, offset by a $0.4 million decline in preclinical costs as IND-enabling studies were substantially complete by year-end 2022. The decrease in expenses related to the Batten Disease program was primarily driven by a $0.6 million decrease in clinical trial costs following the completion of study start-up and site activation costs for the phase 1/2 clinical trial of NGN-101. The increase in expenses related to the Early Discovery program was primarily driven by a $0.2 million increase in preclinical costs related to preclinical activities.

In 2021, Neurogene reprioritized its pipeline and discontinued certain programs that were in the preclinical and IND-enabling phase of development and shifted focus to developing programs such as NGN-401 for the treatment of Rett syndrome with Neurogene's EXACT technology. The decision to wind down these programs resulted in a reduction in costs of $1.6 million in Discontinued Programs, primarily driven by a $0.9 million decrease in preclinical costs and a $0.5 million decline in chemistry, manufacturing, and control costs. Remaining expenses for Discontinued Programs are expected to be substantially complete by year end 2023.

The $1.1 million decrease in unallocated internal expenses was primarily driven by a $0.8 million decrease in personnel-related costs due to a $0.4 million tax credit received in June 2023 and a $0.1 million decrease due to lower headcount, and a $0.5 million decrease in other costs.

General and Administrative Expenses

General and administrative expenses were $2.3 million for the three months ended June 30, 2023, as compared to $2.2 million for the three months ended June 30, 2022, an increase of $0.1 million. The increase was primarily attributable to an increase in personnel-related costs.

Interest Income

Interest income increased by $0.6 million for the three months ended June 30, 2023 as compared to the three months ended June 30, 2022. The increase was primarily due to a significant rise in interest rates that was partially offset by a decrease in the amount of Neurogene's cash balances.

Comparison of the Six Months Ended June 30, 2023 and 2022

The following table summarizes Neurogene's results of operations for the periods indicated:

(in thousands)	Six Months Ended June 30, 2023	2022	Change
Operating expenses:			
Research and development	$ 20,604	$ 25,687	$(5,083)
General and administrative	5,027	4,881	146
Total operating expenses	25,631	30,568	(4,937)
Loss from operations	(25,631)	(30,568)	4,937
Other income (expense):			
Interest income, net	1,520	183	1,337
Interest expense	(5)	—	(5)
Other Expense	(7)	—	(7)
Net loss	$(24,123)	$(30,385)	$ 6,262

Research and Development Expenses

The following table summarizes Neurogene's research and development expenses for the periods indicated:

(in thousands)	Six Months Ended June 30, 2023	2022	Change
Program specific expenses:			
Rett syndrome	$ 2,252	$ 2,063	$ 189
Batten disease	2,553	3,035	(482)
Early Discovery	886	622	264
Discontinued Programs	270	3,146	(2,876)
Unallocated internal expenses:			
Personnel-related	7,378	8,128	(750)
Share-based compensation	415	351	64
Manufacturing	6,103	6,681	(578)
Other	747	1,661	(914)
Total research and development expenses	$20,604	$25,687	$(5,083)

Research and development expenses were $20.6 million for the six months ended June 30, 2023, as compared to $25.7 million for the six months ended June 30, 2022, a decrease of $5.1 million.

Expenses related to the Rett syndrome program increased primarily due to a $1.4 million increase in clinical trial costs related to study start-up for the phase 1/2 clinical trial of NGN-401 and $0.1 million increase in chemistry, manufacturing and control costs, partially offset by a decrease in preclinical costs of $1.4 million as activities related to IND-enabling studies were substantially complete by year-end 2022. The decrease in expenses related to the Batten disease program was primarily driven by a $0.4 million decrease in clinical trial costs. The decrease in Discontinued Programs was primarily driven by a $1.2 million decrease in preclinical costs, a $0.3 million decrease in clinical trial costs, and a $0.9 million decrease in chemistry, manufacturing and controls costs. The remaining decrease was due to a one-time payment of a development milestone in 2021 for one of the Discontinued Programs. Remaining expenses for Discontinued Programs are expected to be substantially complete by year end 2023.

The $2.2 million decrease in unallocated internal expenses was primarily driven by a $0.8 million decrease in personnel-related expenses due to a $0.4 million tax credit received in June 2023 and a $0.4 million decrease due to lower headcount, a $0.6 million decrease in manufacturing costs due to lower raw material expenses and a $0.9 million decrease in other costs.

General and Administrative Expenses

General and administrative expenses were $5.0 million for the six months ended June 30, 2023, as compared to $4.9 million for the six months ended June 30, 2022, an increase of $0.1 million. The increase was not material.

Interest Income

Interest income increased by $1.3 million for the six months ended June 30, 2023 as compared to the six months ended June 30, 2022. The increase was primarily due to a significant rise in interest rates that was partially offset by a decrease in the amount of Neurogene's cash balances.

Comparison of the Years Ended December 31, 2022 and 2021

The following table summarizes Neurogene's results of operations for the periods indicated:

(in thousands)	Year Ended December 31, 2022	2021	Change
Operating expenses:			
Research and development	$ 47,505	$ 42,264	$ 5,241
General and administrative	9,012	8,270	742
Total operating expenses	56,517	50,534	5,983
Loss from operations	(56,517)	(50,534)	(5,983)
Other income (expense):			
Interest income, net	1,337	17	1,320
Interest expense	(2)	—	(2)
Other Expense	(7)	—	(7)
Net loss	$(55,189)	$(50,517)	$(4,672)

Research and Development Expenses

The following table summarizes Neurogene's research and development expenses for the periods indicated:

(in thousands)	Year Ended December 31, 2022	2021	Change
Program specific expenses:			
Rett syndrome	$ 4,609	$ 601	$ 4,008
Batten disease	5,576	8,543	(2,967)
Early Discovery	1,327	122	1,205
Discontinued Programs	3,861	6,534	(2,673)
Unallocated internal expenses:			
Personnel-related	16,152	12,056	4,096
Share-based compensation	732	474	258
Manufacturing	12,244	10,087	2,157
Other	3,004	3,847	(843)
Total research and development expenses	$47,505	$42,264	$ 5,241

Research and development expenses were $47.5 million for the year ended December 31, 2022, as compared to $42.3 million for the year ended December 31, 2021, an increase of $5.2 million.

Expenses related to the Rett syndrome program increased primarily due to a $2.4 million increase in preclinical costs related to IND-enabling studies and a $1.2 million increase in chemistry, manufacturing and control costs to support IND-enabling studies. The decrease in expenses related to the Batten disease program was primarily due to a $3.0 million decrease in chemistry, manufacturing and control costs as activities required to produce and test GMP material at a CDMO were substantially completed in 2021. The increase in Early Discovery expenses was driven primarily by a $1.2 million increase in preclinical costs. Discontinued Programs expense declined primarily due to a $1.9 million decrease in preclinical costs and $0.8 decrease in clinical trial costs. Remaining expenses for Discontinued Programs are expected to substantially complete by year end 2023.

The $5.7 million increase in unallocated internal expenses was primarily driven by a $4.1 million increase in personnel-related expenses reflecting an increase in headcount to support internal manufacturing and clinical development activities, and a $2.1 million increase in Manufacturing expenses due to an increase in raw material purchases and contract analytical testing, offset by a $0.8 million decline in other expenses.

General and Administrative Expenses

General and administrative expenses were $9.0 million for the year ended December 31, 2022 as compared to $8.3 million for the year ended December 31, 2021, an increase of $0.7 million. The increase was primarily due to an increase in personnel-related expense due to increases in employee headcount and an increase in professional fees for tax and financial services.

Interest Income

Interest income increased by $1.3 million for the year ended December 31, 2022 as compared to the year ended December 31, 2021. The increase was primarily due to a significant rise in interest rates and an increase in the amount of Neurogene's cash balances from 2021 to 2022.

Liquidity and Capital Resources

Sources of Liquidity

Since inception, Neurogene has not generated any revenue from product sales and has incurred significant operating losses and negative cash flows from its operations. Neurogene expects to continue to incur significant expenses and operating losses for the foreseeable future as it advances the clinical development of its product candidates. Neurogene expects that its research and development and general and administrative costs will continue to increase significantly, including in connection with conducting clinical trials and manufacturing for its product candidates to support commercialization and providing general and administrative support for its operations, including the costs associated with operating as a public company. As a result, Neurogene will need additional capital to fund its operations, which Neurogene may obtain from additional equity or debt financings, collaborations, licensing arrangements or other sources. See the section entitled "Risk Factors" for additional risks associated with Neurogene's substantial capital requirements.

As of June 30, 2023, Neurogene had cash and cash equivalents of $59.0 million. Since inception, Neurogene has funded its operations primarily through private placements of convertible preferred stock for net proceeds of $244.4 million.

Going Concern

Neurogene evaluated certain adverse conditions and events that raise substantial doubt about its ability to continue as a going concern within one year after the date that the accompanying financial statements were issued or available to be issued (the "issuance date"). Since its inception, Neurogene has funded its operations primarily with proceeds from the sale of preferred stock and has incurred significant recurring losses, including net losses of $24.1 million for the six months ended June 30, 2023 and net losses of $55.2 million and $50.5 million for the years ended December 31, 2022 and 2021, respectively. In addition, Neurogene used $22.9 million cash in operations for the six months ended June 30, 2023 and $52.8 million and $46.4 million for the years ended December 31, 2022 and 2021, respectively, and Neurogene had an accumulated deficit of $175.0 million as of June 30, 2023. Neurogene expects its available cash and cash equivalents on hand as of the issuance date will not be sufficient to fund its obligations as they become due for at least one year beyond the issuance date.

While Neurogene is seeking to secure additional outside capital as of the issuance date, management can provide no assurance such capital will be secured or on terms that are acceptable to Neurogene. While Neurogene plans to consummate the merger and the Neurogene pre-closing financing during the fourth quarter of 2023, management can provide no assurance that the merger or the Neurogene pre-closing financing will be consummated in accordance with their respective terms, or at all.

In the event Neurogene is unable to secure additional outside capital and/or consummate the merger and the Neurogene pre-closing financing, management will be required to seek other alternatives which may include, among others, a delay or termination of clinical trials or the development of its product candidates, temporary or permanent curtailment of Neurogene's operations, a sale of assets, or other alternatives with strategic or financial partners. These uncertainties raise substantial doubt about Neurogene's ability to continue as a going concern.

Pre-Closing Financing

In connection with the Merger Agreement, certain third parties have entered into the Neurogene pre-closing financing as disclosed above. The Neurogene pre-closing financing is contingent on and will occur prior to the closing of the merger, subject to customary closing conditions. Shares of Neurogene common stock and pre-funded warrants to purchase shares of Neurogene common stock issued pursuant to the Neurogene pre-closing financing will be converted into shares of Neoleukin common stock and pre-funded warrants to purchase shares of Neoleukin common stock, respectively, in accordance with the exchange ratio at the effective time.

Future Capital Requirements

Since inception, Neurogene has not generated any revenue from product sales. Management does not expect to generate any meaningful product revenue unless and until Neurogene obtains regulatory approval of and commercializes any of its product candidates, and management does not know when, or if, that will occur. Until Neurogene can generate significant revenue from product sales, if ever, it will continue to require substantial additional capital to develop its product candidates and fund operations for the foreseeable future. Management expects Neurogene's expenses to increase in connection with its ongoing activities as described in greater detail below. Neurogene is subject to all the risks incident in the development of new biopharmaceutical products, and it may encounter unforeseen expenses, difficulties, complications, delays, and other unknown factors that may harm Neurogene's business.

In order to complete the development of Neurogene's product candidates and to build the sales, marketing and distribution infrastructure that management believes will be necessary to commercialize product candidates, if approved, Neurogene will require substantial additional capital. Accordingly, until such time that Neurogene can generate a sufficient amount of revenue from product sales or other sources, if ever, management expects to seek to raise any necessary additional capital through private or public equity or debt financings, loans or other capital sources, which could include income from collaborations, partnerships or other marketing, distribution, licensing or other strategic arrangements with third parties, or from grants. To the extent that Neurogene raises additional capital through equity financings or convertible debt securities, the ownership interest of its stockholders will be or could be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of its common stockholders. Debt financing and equity financing, if available, may involve agreements that include covenants limiting or restricting Neurogene's ability to take specific actions, including restricting its operations and limiting its ability to incur liens, issue additional debt, pay dividends, repurchase its own common stock, make certain investments or engage in merger, consolidation, licensing, or asset sale transactions. If Neurogene raises capital through collaborations, partnerships, and other similar arrangements with third parties, it may be required to grant rights to develop and market product candidates that Neurogene would otherwise prefer to develop and market itself. Neurogene may be unable to raise additional capital from these sources on favorable terms, or at all. Neurogene's ability to raise additional capital may be adversely impacted by potential worsening global economic conditions and the recent disruptions

to, and volatility in, the credit and financial markets in the United States and worldwide resulting from recent bank failures, other macroeconomic conditions and otherwise. The failure to obtain sufficient capital on acceptable terms when needed could have a material adverse effect on Neurogene's business, results of operations or financial condition, including by requiring Neurogene to delay, reduce or curtail its research, product development or future commercialization efforts. Neurogene may also be required to license rights to product candidates at an earlier stage of development or on less favorable terms than Neurogene would otherwise choose. Management cannot provide assurance that Neurogene will ever generate positive cash flow from operating activities.

Since its inception, Neurogene has funded its operations primarily with outside capital (e.g., proceeds from the sale of preferred stock) and has raised aggregate net proceeds of $244.4 million from these private placements. However, Neurogene has incurred significant recurring losses. As of June 30, 2023, Neurogene had an accumulated deficit of $175.0 million and cash and cash equivalents of $59.0 million. In order to continue its operations, Neurogene must achieve profitable operations and/or obtain additional equity or debt financing. Until Neurogene achieves profitability, management plans to fund its operations and capital expenditures with cash on hand and issuance of capital stock including any proceeds from the Neurogene pre-closing financing. Neurogene may not be successful in raising additional capital and such capital, if available, may not be on terms that are acceptable to Neurogene.

Immediately prior to the merger, Neurogene expects to receive gross proceeds of approximately $95 million from the Neurogene pre-closing financing. Upon the closing of the merger, Neurogene expects to incur additional costs associated with operating as a public company. In addition, Neurogene anticipates that it will need substantial additional funding in connection with its continuing operations. Management based projections of operating capital requirements on Neurogene's current operating plan, which includes several assumptions that may prove to be incorrect, and Neurogene may use all of its available capital resources sooner than management expects.

Because of the numerous risks and uncertainties associated with research, development and commercialization of product candidates, Neurogene is unable to estimate the exact amount and timing of its capital requirements. Neurogene's future funding requirements will depend on many factors, including:

- the scope, timing, progress, results, and costs of researching and developing genetic medicines, and conducting larger and later-stage clinical trials;
- the scope, timing, progress, results, and costs of researching and developing other product candidates that Neurogene may pursue;
- the costs, timing, and outcome of regulatory review of Neurogene's product candidates;
- the costs of future activities, including product sales, medical affairs, marketing, manufacturing, and distribution, for any of Neurogene's product candidates for which it receives marketing approval;
- the costs of manufacturing commercial-grade products and sufficient inventory to support commercial launch;
- the revenue, if any, received from commercial sale of Neurogene's products, should any of product candidates receive marketing approval;
- the cost and timing of attracting, hiring, and retaining skilled personnel to support Neurogene's operations and continued growth;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing Neurogene's intellectual property rights and defending intellectual property-related claims;
- Neurogene's ability to establish, maintain, and derive value from collaborations, partnerships or other marketing, distribution, licensing, or other strategic arrangements with third parties on favorable terms, if at all;

- the extent to which Neurogene acquires or in-licenses other product candidates and technologies, if any; and
- the costs associated with operating as a public company.

A change in the outcome of any of these or other factors with respect to the development of any of Neurogene's product candidates could significantly change the costs and timing associated with the development of that product candidate. Furthermore, Neurogene's operating plans may change in the future, and Neurogene may need additional capital to meet the capital requirements associated with such operating plans.

Cash Flows

The following table summarizes Neurogene's cash flows for the periods indicated:

	Six Months Ended June 30,		Year Ended December 31,	
(in thousands)	**2023**	**2022**	**2022**	**2021**
Net cash used in operating activities	$(22,882)	$(31,806)	$(52,824)	$(46,400)
Net cash used in investing activities	(111)	(2,008)	(2,230)	(18,369)
Net cash provided by financing activities	21	66,483	66,531	51,063
Net increase (decrease) in cash and cash equivalents	$(22,972)	$ 32,669	$ 11,477	$(13,706)

Cash Flows from Operating Activities

For the six months ended June 30, 2023, Neurogene used $22.9 million of cash in operating activities. Cash used in operating activities reflected Neurogene's net loss of $24.1 million, a $1.4 million net decrease in Neurogene's operating assets and liabilities, offset by noncash charges of $2.6 million, which consisted of $1.6 million in depreciation, $0.7 million in stock-based compensation and $0.3 million in in non-cash operating lease expense. The primary use of cash was to fund Neurogene's operations related to the development of its product candidates.

For the six months ended June 30, 2022, Neurogene used $31.8 million of cash in operating activities. Cash used in operating activities reflected Neurogene's net loss of $30.4 million, a $3.8 million net decrease in Neurogene's operating assets and liabilities, offset by noncash charges of $2.4 million, which consisted of $1.5 million in depreciation, $0.6 million in stock-based compensation and $0.3 million in in non-cash operating lease expense. The primary use of cash was to fund Neurogene's operations related to the development of its product candidates.

For the year ended December 31, 2022, Neurogene used $52.8 million of cash in operating activities. Cash used in operating activities reflected Neurogene's net loss of $55.2 million, a $2.7 million net decrease in Neurogene's operating assets and liabilities, offset by noncash charges of $5.1 million, which consisted of $3.2 million in depreciation, $1.3 million in stock-based compensation and $0.6 million in non-cash operating lease expense. The primary use of cash was to fund Neurogene's operations related to the development of its product candidates.

For the year ended December 31, 2021, Neurogene used $46.4 million of cash in operating activities. Cash used in operating activities reflected Neurogene's net loss of $50.5 million, offset by a $1.6 million net increase in Neurogene's operating assets and liabilities, noncash charges of $2.5 million, which consisted of $0.9 million in depreciation and $0.9 million in stock-based compensation. The primary use of cash was to fund Neurogene's operations related to the development of its product candidates.

Cash Flows from Investing Activities

For the six months ended June 30, 2023, net cash flows used in investing activities consisted of purchases of property and equipment of $0.1 million.

For the six months ended June 30, 2022, net cash flows used in investing activities consisted of purchases of property and equipment of $2.0 million.

For the year ended December 31, 2022, net cash flows used in investing activities consisted of purchases of property and equipment of $2.2 million.

For the year ended December 31, 2021, net cash flows used in investing activities consisted of purchases of property and equipment of $18.4 million.

Cash Flows from Financing Activities

For the six months ended June 30, 2023, net cash flows provided by financing activities consisted of proceeds from the issuance of Series A common stock upon the exercise of options of $0.1 million, partially offset by deferred financing costs of $0.1 million.

For the six months ended June 30, 2022, net cash flows provided by financing activities consisted of proceeds from the issuance of Series B convertible preferred stock of $66.5 million.

For the year ended December 31, 2022, net cash flows provided by financing activities consisted of proceeds from the issuance of Series B convertible preferred stock of $66.5 million and proceeds from the issuance of Series A common stock upon the exercise of options of $0.07 million.

For the year ended December 31, 2021, net cash flows provided by financing activities consisted of proceeds from the issuance of Series B convertible preferred stock of $50.8 million and proceeds from the issuance of Series A common stock upon the exercise of options of $0.3 million.

Contractual Obligations and Commitments

Lease Obligations

Neurogene leases space under operating lease agreements for administrative offices in New York, New York, and a manufacturing facility in Houston, Texas, which expire in June 2026 and August 2029, respectively.

The following table summarizes Neurogene's contractual obligations and commitments as of June 30, 2023:

Maturity of operating lease liabilities (in thousands)	
2023 (remaining)	$ 527
2024	1,081
2025	1,119
2026	866
2027	677
2028	677
2029	397
Total lease payments	$5,344

Maturity of finance lease liabilities (in thousands)	
2023 (remaining)	$ 25
2024	51
2025	49
2026	15
2027	6
2028	1
Total lease payments	$147

Research and Development and Manufacturing Agreements

Neurogene enters into agreements with certain vendors for the provision of goods and services, which includes manufacturing services with contract development and manufacturing organizations and development and clinical trial services with CROs. These agreements may include certain provisions for purchase obligations and termination obligations that could require payments for the cancellation of committed purchase obligations or for early termination of the agreements. The amount of the cancellation or termination payments vary and are based on the timing of the cancellation or termination and the specific terms of the agreement. These obligations and commitments are not presented separately.

License and Collaboration Agreements

License Agreement with The University of North Carolina

In May 2019, Neurogene entered into an Exclusive License Agreement with the University of North Carolina at Chapel Hill ("UNC") to obtain an exclusive, worldwide, royalty bearing license, with the right to grant sublicenses under certain patents to make, use, or sell products covered by such patents for prevention or treatment of disease or medical or genetic conditions, including CLN5 Batten disease or other diseases from dysfunction of the CLN5 gene. Neurogene is obligated to pay UNC up to $1.7 million in sales-related milestones for licensed products based on annual sales of the licensed product in excess of defined thresholds and low single-digit percentage royalties on net sales of licensed product for as long as there is a valid patent claim under the patent rights. Neurogene is also required to reimburse any patent expenses, as well as pay a nonrefundable annual maintenance fee which, when royalties become due and payable, will be creditable against such royalties.

License Agreement with The University of Edinburgh

In January 2020, Neurogene entered into an Option Agreement (the "Edinburgh Option Agreement") with the University Court of the University of Edinburgh ("University of Edinburgh") for an option to license certain patents covering the EXACT technology (the "Licensed Technology"). To secure the option, Neurogene was solely required to pay the costs associated with the filing, preparing, prosecution and maintenance of the patents covering the Licensed Technology during the option period. Such expenses were immaterial for the year ended December 31, 2020. No other payments were payable under the Edinburgh Option Agreement. Neurogene subsequently exercised the option under the Edinburgh Option Agreement and then entered into the Master Collaboration Agreement ("MCA") discussed below, which superseded the Edinburgh Option Agreement.

In December 2020, University of Edinburgh and Neurogene entered into the MCA. Under the MCA, Neurogene and the University of Edinburgh agreed to collaborate on certain research and development projects ("Projects") and Neurogene agreed to provide funding for such Projects for a 40-month initial term, which term may be extended by mutual agreement. In exchange for such funding, the University of Edinburgh granted Neurogene the option to exclusively license any intellectual property arising from such Projects. If Neurogene exercises an exclusive option for a particular Project, Neurogene will enter into a separate exclusive license agreement on its own terms with the University of Edinburgh. Under the MCA, Neurogene is obligated to pay

semi-annual installment payments relating to funding of costs for personnel and lab consumables for the 40-month period. Either party may terminate the MCA for convenience upon 90 days' notice. If Neurogene terminates the MCA, it would be responsible for all non-cancellable costs and commitments related to any particular Project and any and all funding costs for any person working on such Project.

In March 2022, Neurogene exercised its option through the collaboration under the MCA, and entered into a License Agreement (the "March 2022 Edinburgh License Agreement") with University of Edinburgh, pursuant to which Neurogene licensed certain patents and know-how related to the EXACT technology and optimized MECP2 cassettes on an exclusive basis. Under the March 2022 Edinburgh License Agreement, Neurogene obtained an exclusive, worldwide license to the licensed patents to develop, manufacture, supply, sell, and commercialize any products that utilize the licensed patents (the "Licensed Products") in exchange for low single-digit percentage royalties on future commercial net sales of the Licensed Products. Royalties are payable on a Licensed Product-by-Licensed Product and country-by-country basis until the latest of the expiration of the last licensed patent covering such Licensed Product in the country where the Licensed Product is sold, or, if no licensed patent exists or has expired in such country, then ten years from first commercial sale of such Licensed Product in such country. In connection with the license, Neurogene is also obligated to pay the University of Edinburgh up to $5.25 million in regulatory-related milestones and up to $25 million in sales-related milestones based on annual net sales of Licensed Products in excess of defined thresholds.

License Agreement with Virovek

In September 2020, Neurogene entered into a Non-Exclusive License Agreement with Virovek, Inc., pursuant to which Neurogene has a license to use certain patents and know-how on a non-exclusive basis related to Neurogene's baculovirus process in exchange for low single-digit percentage royalties on future commercial net sales of each product using the baculovirus process, development milestone payments of up to $200,000 in the aggregate, and a nonrefundable annual license fee.

License Agreement with Sigma-Aldrich Co

In January 2023, Neurogene entered into a Non-Exclusive License Agreement with Sigma-Aldrich Co. LLC, pursuant to which Neurogene has a license to certain patents and know-how on a non-exclusive basis related to certain cell lines used in Neurogene's baculovirus process in exchange for a small annual fee on a product-by-product basis, payable once the first product candidate enters the clinic. In addition, on a product-by-product basis, Neurogene is obligated to pay up to $2.5 million in the aggregate for development-related milestones.

Off-Balance Sheet Arrangements

Neurogene currently does not have, and did not have during the periods presented, any off-balance sheet arrangements, as defined in the rules and regulations of the SEC.

Critical Accounting Policies and Significant Judgments and Estimates

Neurogene's financial statements are prepared in accordance with U.S. GAAP. The preparation of the financial statements and related disclosures requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, costs and expenses, and the disclosure of contingent assets and liabilities in Neurogene's financial statements. Neurogene bases its estimates on historical experience, known trends and events and various other factors that management believes are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Management evaluates estimates and assumptions on a periodic basis. Neurogene's actual results may differ from these estimates.

While Neurogene's significant accounting policies are described in more detail in the Note 3 to the financial statements for the years ended December 31, 2022 and 2021, appearing elsewhere in this proxy statement/prospectus, management believes that the following accounting policies are critical to understanding Neurogene's historical and future performance, as the policies relate to the more significant areas involving management's judgments and estimates used in the preparation of the financial statements.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred in connection with the development of Neurogene's product candidates. Neurogene expenses research and development costs as incurred.

These costs include, but are not limited to, employee-related expenses, including salaries, benefits and travel of research and development personnel, facilities, supplies, rent, insurance, stock-based compensation, depreciation and external expenses incurred under agreements with contract research organizations and investigative sites that conduct preclinical and clinical studies and manufacture the drug product for Neurogene's preclinical and clinical activities and other costs associated with preclinical activities.

Before a product receives regulatory approval, Neurogene records upfront and milestone payments to third parties under licensing arrangements as expense, provided that there is no alternative future use of the rights in other research and developments projects.

Neurogene accrues expenses for preclinical studies and clinical trial activities performed by its vendors based upon estimates of the proportion of work completed. Neurogene determines the estimates by reviewing contracts, vendor agreements and purchase orders, and through discussions with its internal clinical personnel and external service providers as to the progress or stage of completion of trials or services and the agreed-upon fee to be paid for such services. However, actual costs and timing of clinical trials are highly uncertain, subject to risks and may change depending upon a number of factors, including Neurogene's clinical development plan. There can be judgment involved in measuring the research and development expenses to be recognized in a particular period. In some cases, expense is recorded using an underlying assumption of the progress to completion of specific activities. For example, costs may be recognized based on the passage of time for activities that span reporting periods. If the provision of services is not linear then this assumption could impact the amount of expense recognized. The level of judgment varies based on the nature of the services being performed and the underlying support obtained. For some activities, such as for certain clinical trials, expense is recorded based on information obtained from vendors as an intermediary to those performing the underlying services, such as contract research organizations. These estimates are inherently more judgmental since the quality and availability of the underlying data may vary. Neurogene does not need to make significant estimates where costs incurred are supported by invoices or reports of costs incurred are obtained from a vendor that is directly performing the underlying services, such as a consultant or contract manufacturing organization.

Neurogene makes estimates of its accrued expenses as of each balance sheet date in its financial statements based on facts and circumstances known at that time. If the actual timing of the performance of services or the level of effort varies from the estimate, Neurogene will adjust the accrual accordingly. Nonrefundable advance payments for goods and services, including fees for clinical trial expenses, process development or manufacturing and distribution of clinical supplies that will be used in future research and development activities, are deferred and recognized as expense in the period that the related goods are consumed or services are performed.

In-process research and development ("IPR&D") that is acquired through licensing arrangements and accounted for as asset acquisitions are expensed immediately and within research and development expenses if the IPR&D has no alternative future use.

Stock-Based Compensation

Neurogene accounts for stock options granted to employees and nonemployees at fair value, which is measured using Black-Scholes Option pricing model. The fair value measurement date for employee awards is generally the date of grant. Neurogene recognizes stock-based compensation expense over the requisite service period of the individual grant, generally equal to the vesting period and uses the straight-line method to recognize stock-based compensation.

Neurogene's policy is to account for forfeitures of stock-based when they occur in accordance with *ASC 718, Compensation—Stock Compensation.* Neurogene reverses compensation cost previously recognized, in the period the award is forfeited, for an award that is forfeited before completion of the requisite service period.

Neurogene utilizes the Black-Scholes option-pricing model, which incorporates assumptions and estimates, to value these options. Estimates and assumptions impacting the fair value measurement include the fair value per share of the underlying stock issuable upon exercise of the options, life of the options, risk-free interest rate, expected dividend yield and expected volatility from peer public companies of the price of the underlying stock.

Estimating the Fair Value of Common Stock

Neurogene is required to estimate the fair value of the common stock underlying its stock-based awards when performing the fair value calculations using the Black-Scholes option pricing model. Because Neurogene's common stock is not currently publicly traded, the fair value of the common stock underlying its stock options has been determined on each grant date by Neurogene's board of directors, with input from management, considering Neurogene's most recently available third-party valuation of common shares.

The third-party valuations of Neurogene's common stock were performed using methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants, *Audit and Accounting Practice Aid Series: Valuation of Privately Held Company Equity Securities Issued as Compensation*. In addition, Neurogene's board of directors considered various objective and subjective factors to estimate the estimated fair value of Neurogene's common stock, including:

- contemporaneous valuations of Neurogene's common stock performed by independent third-party specialists;
- prices of Neurogene's convertible preferred stock sold to outside investors in arm's length transactions, and the rights, preferences and privileges of Neurogene's convertible preferred stock as compared to those of its common stock, including the liquidation preferences of its convertible preferred stock;
- estimated value of each security both outstanding and anticipated;
- anticipated capital structure, which will directly impact the value of the currently outstanding securities;
- actual results of operations and financial position;
- the status of Neurogene's research and development efforts;
- the composition of, and changes to, Neurogene's management team and board of directors;
- the lack of marketability and liquidity of Neurogene's common stock as a private company;
- Neurogene's stage of development and business strategy and the material risks related to its business and industry;
- general external market conditions affecting the life sciences and biotechnology industry sectors;
- U.S. and global economic conditions;

- the likelihood of achieving a liquidity event for the holders of Neurogene's common stock, such as an initial public offering ("IPO") or a sale of Neurogene's company, given prevailing market conditions; and
- the market value and volatility of comparable companies.

In determining the estimated fair value of Neurogene's common stock, Neurogene's board of directors considered the subjective factors discussed above in conjunction with the most recent valuations of Neurogene's common stock that were prepared by an independent third-party. Neurogene's board of directors, relying in part on these third-party valuations, determined valuations of Neurogene's common stock of $0.44, $0.81, $0.90, $1.74, $1.53 and $1.39 per share as of February 8, 2019, September 25, 2020, December 15, 2020, August 31, 2021, March 4, 2022 and January 13, 2023, respectively, and such valuations by the board of directors were used for the purposes of determining the stock-based compensation expense. Following the closing of this offering, the fair value of Neurogene's common stock will be the closing price of its common stock on the Nasdaq Capital Market as reported on the date of the grant.

MANAGEMENT FOLLOWING THE MERGER

Executive Officers and Directors

The combined company's board of directors will initially be fixed at seven members, consisting of (i) five directors designated by Neurogene, including current Neurogene directors Rachel McMinn, Robert Baffi, Cory Freedland and Srdjan Stankovic, and (ii) two current Neoleukin Board members, Rohan Palekar and Sarah Noonberg. The staggered structure of the current Neoleukin board of directors will remain in place for the combined company following the completion of the merger. The Neoleukin board of directors has determined that each of the directors other than meet the Nasdaq independence requirements.

The following table sets forth the name, age and position of each of the individuals who are expected to serve as executive officers and directors of the combined company as of , 2023:

Name	Age	Position
Executive Officers:		
Rachel McMinn	50	Founder, Chief Executive Officer and Director
Christine Mikail	45	President and Chief Financial Officer
Stuart Cobb	53	Chief Scientific Officer
Non-Employee Directors:		
Robert Baffi	68	Director
Cory Freedland	47	Director
Sarah Noonberg	55	Director
Rohan Palekar	57	Director
Srdjan Stankovic	66	Director

Each executive officer will serve at the discretion of the combined company's board of directors and holds office until his or her successor is duly elected and qualified or until his or her earlier resignation or removal. There are no family relationships among any of the proposed combined company's directors or executive officers.

All of Neoleukin's current directors, other than Rohan Palekar and Sarah Noonberg, are expected to resign from their positions as directors of Neoleukin, effective as of the Effective Time.

Executive Officers

Rachel McMinn, Ph.D. Dr. McMinn founded Neurogene in January 2018 and has since served as Chief Executive Officer and a member of its board of directors. Prior to founding Neurogene, she served as Chief Business and Strategy Officer of Intercept Pharmaceuticals, Inc. (Nasdaq: ICPT), a biopharmaceutical company dedicated to the treatment of patients with serious liver disease, from April 2014 to December 2017. Prior to her operational experience, Dr. McMinn was an award-winning biotechnology analyst, with 13 years of experience at firms such as Bank of America Merrill Lynch, Cowen and Company and Piper Jaffray. Dr. McMinn has served on the board of directors of Neurogene since January 2018. Dr. McMinn also serves on the board of directors of Everyone Medicines since 2021, and prior to that the non-profit Everyone Foundation from 2019 to 2021. Dr. McMinn received her B.A., magna cum laude, from Cornell University and her Ph.D. from The Scripps Research Institute, and was awarded a Post-Doctoral Miller Fellowship at the University of California, Berkeley.

Neurogene believes Dr. McMinn is qualified to serve on the board of directors of the combined company because of her in-depth knowledge of Neurogene, her operational and senior management experience, and her extensive healthcare investment research in the biotechnology industry.

Christine Mikail, J.D. Ms. Mikail has served as President and Chief Financial Officer of Neurogene since September 2019. In her role, Ms. Mikail leads Corporate Strategy and Business Development, Portfolio

Management, Operations, and Finance. Ms. Mikail brings over two decades of experience supporting biotechnology and pharmaceutical companies in corporate strategy and business development, operations, legal and finance capacities. Prior to Neurogene, Ms. Mikail was Chief Administrative Officer and Head of External Business Development/Alliance Management and General Counsel at Axovant Sciences (which became Sio Gene Therapies Inc. (OTCMAKTS: SIOX) from March 2015 to March 2017, where she was an integral member of the team that raised $362 million in the company's initial public offering. Prior to Axovant, she held a variety of senior executive positions at NPS Pharmaceuticals, Inc., Dendreon Corporation, Eli Lilly and Company, and ImClone Systems. Ms. Mikail developed her life sciences focus as a corporate and securities lawyer at international law firms of Reed Smith LLP and Wilmer Cutler Pickering Hale and Dorr LLP. Ms. Mikail received her B.A., cum laude, from Rutgers University and her J.D. from Fordham University School of Law in New York.

Stuart Cobb, Ph.D. Dr. Cobb has been Chief Scientific Officer of Neurogene since January 2019. Dr. Cobb brings more than 20 years of experience in translational neuroscience. His expertise is focused on developing genetic therapies for severe neurological and neurodevelopmental disorders. Dr. Cobb leads Neurogene's scientific research, the development of scientific strategy to support Neurogene's existing and growing gene therapy portfolio, and efforts to identify novel technologies that complement Neurogene's pipeline. In addition to his role at Neurogene, Dr. Cobb has been a director of Stuart Cobb Consulting LTD, a scientific consultancy firm since December 2018 and has led a genetic therapy research laboratory as principal investigator within the Medical School at the University of Edinburgh since November 2017 where he currently serves as the Chair of Translational Neuroscience. Prior to these roles, Dr. Cobb was an independent principal investigator and laboratory head from October 1999 to October 2017 and was previously head of the Centre for Neuroscience at the University of Glasgow. He also previously worked at Inveresk Research International, a contract research organization, from June 1987 to September 1989. Dr. Cobb received his B.Sc. in Pharmacology from the University of Glasgow and Ph.D. (D.Phil.) in Neuroscience from the University of Oxford.

Non-Employee Directors

Robert Baffi, Ph.D. Dr. Baffi has served as a member of the board of directors of Neurogene since September 2020. Dr. Baffi is a Venture Partner at Samsara BioCapital, an investment company focused on the life sciences industry, which he joined in March 2021. Dr. Baffi had a 23-year tenure at BioMarin Pharmaceutical Inc. (Nasdaq: BMRN), a global biotechnology company, from May 2000 to March 2023, where he served as President of Global Manufacturing & Technical Operations from 2018 to 2020, was responsible for overseeing manufacturing, process development based on the baculovirus system, quality, logistics, engineering and analytical chemistry, and led the building of one of the first gene therapy manufacturing facilities of its kind, before he became Senior Advisor to the Chairman and Chief Executive Officer in 2021. Prior to BioMarin, Dr. Baffi served 14 years in a number of increasingly senior positions at Genentech, Inc., primarily in the functional area of quality control. Prior to Genentech, Dr. Baffi worked at Cooper BioMedical, Inc. as a Research Scientist and at the Becton Dickinson Research Center as a Post-Doctoral Fellow. Dr. Baffi has contributed to the approval and commercial success of 28 products. Dr. Baffi has served as a member of the board of directors of Mosaic ImmunoEngineering Inc. (OTCMTKS: CPMV), a biotechnology company, since June 2021 and Bionic Sight, Inc., a biotechnology company, since 2020. Dr. Baffi also serves on the science advisory board of the National Institute for Bioprocessing Research & Training. Dr. Baffi received his Ph.D., M. Phil. and B.S. in biochemistry from the City University of New York and his M.B.A. from Regis University.

Neurogene believes Dr. Baffi is qualified to serve on the board of directors of the combined company because of his extensive education and investment, management, commercialization, operational and leadership experience in the life sciences sector.

Cory Freedland, Ph.D. Dr. Freedland has served as a member of the board of directors of Neurogene since February 2019. Dr. Freedland is a Partner at Samsara BioCapital, an investment company focused on the life sciences industry, which he joined in October 2017. Dr. Freedland has over 20 years of experience, leading multiple successful life science investments in his role. Prior to Samsara, Dr. Freedland was a Principal at

Sofinnova Ventures, a biopharmaceutical venture capital firm, where he focused on biopharmaceutical investments. He played a central role in Sofinnova's investments in Civitas Therapeutics, Inc. (acquired by Acorda Therapeutics, Inc.), Principia Biopharma, Spark Therapeutics, Inc. (acquired by Roche), Ziarco Pharma Ltd. (acquired by Novartis AG), and ZS Pharma, Inc. (acquired by AstraZeneca plc). Prior to Sofinnova, Dr. Freedland was a Principal at Novo A/S.

Before his transition to healthcare investing, Dr. Freedland was a Vice President in the healthcare investment banking practice at Morgan Stanley. Prior to transitioning to life sciences finance, Dr. Freedland worked as a research scientist for Roche focusing on preclinical drug discovery and novel target identification for psychiatric and neurodegenerative diseases. Dr. Freedland served on the board of directors of Jiya Acquisition Corp. from November 2020 to November 2022. Dr. Freedland has also served on the board of directors of multiple private companies. Dr. Freedland received his Ph.D. in Pharmacology from Wake Forest University School of Medicine, his M.B.A. from the Kellogg School of Management and his B.A. in Psychology and Religious Studies from Connecticut College.

Neurogene believes Dr. Freedland is qualified to serve on the board of directors of the combined company because of his extensive leadership, investment and business development experience in the life sciences sector, as well as his experience as a director of several biotechnology company boards.

Sarah B. Noonberg, M.D., Ph.D. Dr. Noonberg has served as a member of the Neoleukin board of directors since August 2019. Dr. Noonberg has over 20 years of industry experience leading development programs from discovery to commercialization across a range of indications, and has served as the Chief Medical Officer of Metagenomi, a next generation gene editing biotechnology company, since January 2023. Prior to Metagenomi, from September 2020 to September 2022, Dr. Noonberg served as the Chief Medical Officer of Maze Therapeutics, a human-genetics driven research and development company, and from May 2018 to May 2019, she served as the Chief Medical Officer of Nohla Therapeutics Inc., a developer of universal, off-the-shelf cell therapies for patients with hematological malignancies and other critical diseases. Prior to Nohla Therapeutics, Dr. Noonberg served as the Chief Medical Officer of Prothena Corporation plc (Nasdaq: PRTA), a biotechnology company, from May 2017 to May 2018. Dr. Noonberg previously served as Group Vice President and Head of Global Clinical Development at BioMarin Pharmaceuticals Inc. (Nasdaq: BMRN), a biotechnology company, from August 2015 to March 2017. From May 2007 to August 2015, she held several positions at Medivation, Inc., a biopharmaceutical company, including as Senior Vice President of Early Development. Dr. Noonberg has served as a member of the board of directors of Marinus Pharmaceuticals, Inc. (Nasdaq: MRNS), a biopharmaceutical company, since May 2023 and she previously served on the board of directors of Protagonist Therapeutics, Inc (Nasdaq: PTGX), a biopharmaceutical company, from December 2017 to May 2023. Dr. Noonberg received her M.D. from the University of California, San Francisco, her Ph.D. in Bioengineering from the University of California, Berkeley, and her B.S. in Engineering from Dartmouth College. She is a board-certified internist and completed her residency at Johns Hopkins Hospital.

Neoleukin believes Dr. Noonberg is qualified to serve on the board of directors of the combined company because of her senior leadership and public company board experience in the biopharmaceutical industry as well as her extensive medical knowledge and clinical development and regulatory experience.

Rohan Palekar. Rohan Palekar has served as a member of the Neoleukin board of directors since March 2022. Mr. Palekar has served as Chief Executive Officer and a member of the board of directors of 89Bio, Inc. (Nasdaq: ETNB), a biopharmaceutical company, since June 2018. Prior to 89Bio, Mr. Palekar held various positions at Avanir Pharmaceuticals, Inc., a specialty pharmaceutical company, including the role of President and Chief Executive Officer of Avanir from December 2015 to July 2017, where he led the company following its acquisition by Otsuka Pharmaceutical Co., Ltd. in 2015. Prior to the acquisition, Mr. Palekar served as Executive Vice President and Chief Operating Officer in 2015 and as Senior Vice President and Chief Commercial Officer of Avanir from March 2012 to March 2015. Prior to Avanir, from 2008 to 2011, Mr. Palekar served as Chief Commercial Officer for Medivation, Inc., a biopharmaceutical company, where he was responsible for all commercial activities, chemistry, manufacturing and controls, medical affairs, and public

relations functions. Mr. Palekar also spent over 16 years at Johnson & Johnson (NYSE: JNJ), a diversified healthcare company, in various senior commercial and strategic management roles. Since 2018, he has served as a trustee for Aim High for High School, a non-profit educational institution, and currently serves as Chairman of the Board of Trustees. Mr. Palekar earned his M.B.A. from the Tuck School of Business at Dartmouth College, his B.Com. in Accounting from the University of Mumbai and his L.L.B. from the University of Mumbai. Mr. Palekar is also a certified Chartered Accountant and a Cost and Management Accountant.Neoleukin believes Mr. Palekar is qualified to serve on the board of directors of the combined company because of his operational experience in the biopharmaceutical industry as well as his senior management and leadership experience.

Srdjan (Serge) Stankovic, M.D., MSPH. Dr. Stankovic has served as a member of the board of directors of Neurogene since February 2019. Dr. Stankovic is an advisor to Acadia Pharmaceuticals Inc. (Nasdaq: ACAD), a biopharmaceutical company, where he served as President of Acadia from November 2018 to December 2022 and Executive Vice President, Head of Research and Development from November 2015 to November 2018. With over 30 years of experience in CNS drug development, during his seven-year tenure at Acadia Dr. Stankovic led all of Acadia's clinical development and research efforts, including most recently the new drug application for trofinetide, which led to the FDA approval of DayBueTM for the treatment of Rett syndrome. Dr. Stankovic has built and led multidisciplinary teams for small molecules and biologics in therapeutic areas including neurology, psychiatry, oncology, cardiology and pain. He has led teams to achieve approvals of KEPPRA®, FENTORA®, TREANDA®, NUVIGIL®, ARISTADA® and NUPLAZID®. Prior to Acadia, Dr. Stankovic served as Senior Vice President of Clinical Development and Medical Affairs at Alkermes plc (Nasdaq: ALKS) from 2013 to 2015. Prior to Alkermes, he held the position of Senior Vice President and Head of Global Clinical Development for Teva Pharmaceuticals Ltd (NYSE: TEVA). He was appointed to this role following Teva's acquisition of Cephalon, Inc. where he served as Senior Vice President, Worldwide Clinical Research. Dr. Stankovic also held executive positions in research and development at Forest Laboratories, Inc., Neurogen Corporation, Johnson and Johnson (NYSE: JNJ), and UCB (OTCMKTS: UCBJY). Dr. Stankovic received his M.D. from the University of Belgrade and his M.S. in Public Health from the University of Alabama at Birmingham.

Neurogene believes Dr. Stankovic is qualified to serve on the board of directors of the combined company because of his extensive senior management, clinical development and research experience in the biotechnology and pharmaceutical industry.

Composition of the Board of Directors

Neoleukin's board currently consists of six members, divided into three staggered classes, with one class to be elected at each annual meeting to serve for a three-year term. The staggered structure of the board of directors will remain in place for the combined company following the completion of the merger, with Class I directors holding terms expiring at the 2024 annual meeting of stockholders, Class II directors holding terms expiring at the 2025 annual meeting of stockholders and Class III directors holding terms expiring at the 2026 annual meeting of stockholders. It is anticipated that the incoming directors will be appointed to classes of the combined company board of directors following the completion of the merger as follows: , and are expected to be Class I directors; , and are expected to be Class II directors; and , and are expected to be Class III directors.

Committees of the Board of Directors

Neoleukin's board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee, each of which currently operate pursuant to a charter adopted by Neoleukin's board of directors. Following the completion of the merger, the board of directors of the combined company will continue to have these committees, each of which is expected to operate pursuant to a charter adopted by the board of directors of combined company. The board of directors of the combined company may also establish other committees from time to time.

Audit Committee

The primary purpose of Neoleukin's audit committee is to discharge the responsibilities of the Neoleukin board of directors with respect to its accounting, financial, and other reporting and internal control practices and to oversee its independent registered accounting firm. Specific responsibilities of Neoleukin's audit committee include:

- reviewing with management and Neoleukin's independent auditors Neoleukin's financial results, including Neoleukin's financial statement audits;
- providing oversight over Neoleukin's accounting and financial reporting processes and systems of internal controls and the integrity of Neoleukin's financial statements;
- selecting and hiring Neoleukin's independent registered public accounting firm;
- evaluating the qualifications, independence and performance of Neoleukin's independent auditors;
- reviewing with management Neoleukin's programs for compliance with legal and regulatory requirements and risk exposures;
- reviewing and approving related-person transactions; and
- the preparation of the audit committee report to be included in Neoleukin's annual proxy statement.

The audit committee of the combined company is expected to retain these duties and responsibilities following the completion of the merger.

Following the consummation of the merger, the combined company's board of directors is expected to select members of the audit committee and the initial members of the audit committee are expected to be , and , all of whom are "financially literate" under listing standards of Nasdaq. is expected to be the chair of the audit committee and qualifies as an "audit committee financial expert" under the rules of the SEC. To qualify as independent to serve on the combined company's audit committee, listing standards of Nasdaq and the applicable SEC rules require that a director not accept any consulting, advisory or other compensatory fee from the combined company, other than for service as a director, not have participated in the preparation of the financial statements of the combined company or any of its subsidiaries at any time during the past three years, and not be an affiliated person of the combined company. Neoleukin and Neurogene believe that, following the completion of the merger, the composition of the audit committee will comply with the applicable requirements of the rules and regulations of Nasdaq and the SEC.

Compensation Committee

The primary purpose of Neoleukin's compensation committee is to discharge the responsibilities of Neoleukin's board of directors to oversee its compensation policies, plans and programs and to review and determine the compensation to be paid to its executive officers, directors and other senior management, as appropriate.

Specific responsibilities of Neoleukin's compensation committee include:

- evaluating, reviewing, recommending for approval by Neoleukin's board of directors (as needed), and approving executive officer compensation arrangements, plans, policies and programs;
- evaluating and recommending non-employee director compensation arrangements for determination by Neoleukin's board of directors;
- administering Neoleukin's cash-based and equity-based compensation plans;
- overseeing Neoleukin's compliance with regulatory requirements associated with the compensation of directors, officers and employees;

- reviewing with management Neoleukin's human resource activities;
- when required, reviewing with management Neoleukin's Compensation Discussion and Analysis and considering whether to recommend that it be included in proxy statements and other filings; and
- assisting Neoleukin's board of directors in assessing risks created by the incentives inherent in Neoleukin's compensation policies.

The compensation committee of the combined company is expected to retain these duties and responsibilities following completion of the merger.

Following the consummation of the merger, the combined company's board of directors is expected to select members of the compensation committee and the initial members of the compensation committee are expected to be , and . is expected to be the chair of the compensation committee. Each member of the combined company's compensation committee will be a "non-employee" director within the meaning of Rule 16b-3 of the rules promulgated under the Exchange Act and qualify as independent to serve on the combined company's compensation committee under applicable listing standards of Nasdaq and SEC rules. Neoleukin and Neurogene believe that, following the completion of the merger, the composition of the compensation committee will comply with the applicable requirements of the rules and regulations of Nasdaq and the SEC.

Nominating and Corporate Governance Committee

Specific responsibilities of Neoleukin's nominating and corporate governance committee include:

- identifying, considering and recommending candidates for membership on Neoleukin's board of directors;
- developing and recommending corporate governance guidelines and policies for Neoleukin;
- overseeing the evaluation of the performance of Neoleukin's board of directors and its committees;
- advising Neoleukin's board of directors on other corporate governance matters; and
- assisting Neoleukin's board of directors in overseeing any program related to corporate responsibility and sustainability, including environmental, social and corporate governance matters.

The nominating and corporate governance committee of the combined company is expected to retain these duties and responsibilities following completion of the merger.

Following the consummation of the merger, the combined company's board of directors is expected to select members of the nominating and corporate governance committee and the initial members of the nominating and corporate governance committee are expected to be , and . is expected be the chair of the nominating and corporate governance committee. Neoleukin and Neurogene believe that, after the completion of the merger, the composition of the nominating and corporate governance committee will meet the requirements for independence under applicable requirements of the rules and regulations of Nasdaq and the SEC.

Compensation Committee Interlocks and Insider Participation

Each member of the compensation committee of the combined company following the closing of the merger will be a "non-employee" director within the meaning of Rule 16b-3 of the rules promulgated under the Exchange Act and qualify as independent to serve on the combined company's compensation committee under applicable listing standards of Nasdaq and SEC rules. None of the proposed combined company's executive officers serves, or in the past fiscal year has served, as a member of the board of directors or compensation

committee of any entity that has one or more executive officers who is proposed to serve on the combined company's board of directors or compensation committee following the completion of the merger.

Director Compensation

Prior to the merger, Neurogene did not have a formal policy to provide any cash or equity compensation to its non-employee directors for their service on its board of directors or committees of its board of directors. Neurogene's non-employee director compensation is described under "*Neurogene Director Compensation*" in this proxy statement/prospectus. Except as described below, determinations with respect to director compensation after the closing of the merger have not yet been made. In connection with closing of the merger, it is expected that the board of directors of the combined company will adopt a non-employee director compensation policy, designed to enable the combined company to attract and retain, on a long-term basis, highly qualified non-employee directors and align its directors' interests with those of its stockholders. Employee directors will not receive additional compensation for their services as directors. Each director who is not an employee will be paid cash compensation as set forth below for serving on the board of directors of the combined company, with such compensation paid in arrears in four equal quarterly installments pro-rated based on the number of actual days served by the director during such calendar quarter:

	Annual Retainer
Board of Directors:	
All non-employee members	$
Additional retainer for Non-Executive Chair of the Board	$
Audit Committee:	
Chair	$
Members	$
Compensation Committee:	
Chair	$
Members	$
Nominating and Corporate Governance Committee:	
Chair	$
Members	$
R&D Committee:	
Chair	$
Members	$

In addition, each non-employee elected or appointed to the board of directors of the combined company will be granted an initial stock option award and an annual stock option award, the amount and terms of which have not yet been determined.

The combined company will also reimburse its non-employee directors for reasonable travel and out-of-pocket expenses incurred in connection with attending the board of director and committee meetings.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS OF THE COMBINED COMPANY

In addition to the compensation arrangements, including employment, termination of employment and change in control arrangements, with Neoleukin's and Neurogene's directors and executive officers, including those discussed in the sections entitled "*Management Following the Merger*," and "*Neurogene Executive Compensation*," the following is a description of each transaction involving Neoleukin since January 1, 2021, each transaction involving Neurogene since January 1, 2021 and each currently proposed transaction in which:

- either Neoleukin or Neurogene has been or is to be a participant;
- the amounts involved exceeded or will exceed the lesser of $120,000 and 1% of the average of Neoleukin's or Neurogene's total assets at year-end for the last two completed fiscal years, as applicable; and
- any of Neoleukin's or Neurogene's directors, executive officers or holders of more than 5% of any class of Neoleukin's or Neurogene's voting capital stock, or an affiliate or immediate family member of the foregoing persons, had or will have a direct or indirect material interest.

Neoleukin Transactions

Since January 1, 2021, there has not been and there is not currently proposed, any transaction or series of similar transactions to which Neoleukin were, or will be, a party in which the amount involved exceeded, or will exceed, $120,000 (or, if less, 1% of the average of Neoleukin's total assets amounts at December 31, 2021 and 2022) and in which any director, executive officer, holder of five percent or more of any class of Neoleukin's capital stock or any member of the immediate family of, or entities affiliated with, any of the foregoing persons, had, or will have, a direct or indirect material interest.

Indemnification Agreements

Neoleukin has entered into, and in the future plans to enter into, agreements to indemnify its directors and executive officers. These agreements, among other things, require Neoleukin to indemnify these individuals for certain expenses (including attorneys' fees), judgments, fines and settlement amounts reasonably incurred by such person in any action or proceeding, including any action by or in Neoleukin's right, on account of any services undertaken by such person on behalf of Neoleukin or that person's status as a member of Neoleukin's board of directors to the maximum extent allowed under Delaware law.

Policies for Approval of Related Party Transactions

Neoleukin's board of directors adopted a written related person transactions policy providing that transactions with its directors, officers and holders of 5% or more of its voting securities and their affiliates must be approved by Neoleukin's audit committee. This policy became effective on March 23, 2021. Pursuant to this policy, the audit committee has the primary responsibility for reviewing and approving or disapproving "related person transactions," which are transactions between Neoleukin and related persons and in which a related person has or will have a direct or indirect material interest. For purposes of this policy, a related person is defined as a director, executive officer, nominee for director, or greater than 5% beneficial owner of Neoleukin's common stock, in each case since the beginning of the most recently completed year, and their immediate family members.

As appropriate for the circumstances, Neoleukin's audit committee will review and consider among other factors that it deems appropriate, whether the related person transaction is on terms no less favorable to Neoleukin than terms generally available in a transaction with an unaffiliated third-party under the same or similar circumstances and the extent of the related person's interest in the related person transaction.

Neurogene Transactions

The following is a summary of each transaction or series of similar transactions since January 1, 2021 or any currently proposed transaction, to which Neurogene was or is a party in which:

- the amount involved in the transaction exceeds or will exceed the lesser of $120,000 or 1% of the average of Neurogene's total assets for the last two completed fiscal years; and
- any of Neurogene's executive officers, directors or holders of more than 5% of any class of Neurogene's voting capital stock or an affiliate or immediate family member of the foregoing persons had or will have a direct or indirect material interest.

Compensation arrangements for Neurogene's named executive officers and directors are described elsewhere in this proxy statement/prospectus under "*Neurogene Executive Compensation*" and "*Neurogene Director Compensation*."

Private Placements of Securities

Series B Preferred Stock Financing

In December 2020, Neurogene completed a preferred stock financing and issued and sold an aggregate of 28,278,680 shares of Series B Preferred Stock at a purchase price of $2.44 per share, for aggregate gross proceeds of approximately $69 million. In March 2022, Neurogene completed a milestone preferred stock financing and issued and sold an aggregate of 18,852,453 shares of Series B Preferred Stock at a purchase price of $2.44 per share, for aggregate gross proceeds of approximately $46 million. In March 2022, Neurogene completed an additional preferred stock financing and issued and sold an aggregate of 27,274,586 shares of Series B Preferred Stock at a purchase price of $2.44 per share, for aggregate gross proceeds of approximately $67 million. The following table summarizes purchases of Neurogene's Series B Preferred Stock by related persons:

Participant	Shares of Series B Preferred Stock	Total Cash Purchase Price ($)
Entities affiliated with Baker Brothers Investments	14,467,212	$ 35,299,997
Entities affiliated with EcoR1 Capital Fund, L.P	9,836,064	$ 23,999,996
Entities affiliated with Janus Capital Management LLC	6,967,212	$ 16,999,997
Entities affiliated with Redmile Biopharma Investments I, L.P.	6,352,458	$ 15,499,998
Entities affiliated with BlackRock Capital Management, Inc.	6,147,540	$ 14,999,998
Samsara BioCapital, L.P.	6,147,540	$ 14,999,998
Entities affiliated with Cormorant Asset Management, LLC	4,508,195	$ 10,999,996
Rachel McMinn	3,852,457	$ 9,399,995
Arvand Sreedharan	409,835	$ 999,997
Efsevia Albanis	204,917	$ 499,997
Christine Mikail	102,458	$ 249,998

Neurogene Pre-Closing Financing

On July 17, 2023, in connection with the execution of the Merger Agreement, Neurogene entered into subscription agreements with certain investors to consummate the Neurogene pre-closing financing. Pursuant to

the subscription agreements, the investors agreed to purchase an aggregate of 38,177,770 shares of Neurogene common stock and 16,421,271 pre-funded warrants of Neurogene, at a price of $1.74 per share or $1.739999 per pre-funded warrant, respectively, for aggregate gross proceeds of approximately $95 million. The closing of the Neurogene pre-closing financing is conditioned upon the satisfaction or waiver of the conditions to the merger as well as certain other conditions. Seven of the investors or their affiliates are beneficial holders of more than 5% of Neurogene's capital stock, and the table below sets forth the number of shares of Neurogene common stock expected to be purchased by such holders at the closing of the Neurogene pre-closing financing:

Participant	Shares of Neurogene Common Stock	Pre-funded Warrants of Neurogene	Total Purchase Price ($)
Entities affiliated with Baker Brothers Investments	—	12,471,271	$ 21,699,999
Entities affiliated with Great Point Partners, LLC	11,494,252	—	$ 19,999,998
Entities affiliated with EcoR1 Capital Fund, L.P	3,491,000	3,950,000	$ 12,947,336
Entities affiliated with Redmile Biopharma Investments I, L.P.	4,597,701	—	$ 8,000,000
Samsara BioCapital, L.P.	4,022,988	—	$ 6,999,999
Entities affiliated with Janus Capital Management LLC	2,873,563	—	$ 4,999,999
Entities affiliated with BlackRock Capital Management, Inc.	2,298,850	—	$ 3,999,999
Entities affiliated with Cormorant Asset Management, LLC	574,712	—	$ 999,999

Other Agreements with Neurogene Stockholders

In connection with Neurogene's Series B Preferred Stock financing, Neurogene entered into the second amended and restated investors' rights agreement, second amended and restated right of first refusal and co-sale agreement and second amended and restated voting agreement containing registration rights, information rights, rights of first offer, voting rights and other rights with certain holders of Neurogene preferred stock and certain holders of Neurogene common stock. These stockholder agreements will terminate upon the closing of the merger.

Neurogene Indemnification Agreements and Insurance

Neurogene has entered into an indemnification agreement with each of its directors and purchased directors' and officers' liability insurance. The indemnification agreements require Neurogene to indemnify its directors to the fullest extent permitted under Delaware law.

SUMMARY UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION

The following selected unaudited pro forma condensed combined financial information was prepared on the expectation that the merger will be treated as a reverse asset purchase, in accordance with GAAP. On July 17, 2023, Neoleukin, Merger Sub, and Neurogene entered into the Merger Agreement, pursuant to which Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly-owned subsidiary of Neoleukin. While Neoleukin is the acquirer from a legal perspective, Neurogene is considered the accounting acquirer. This determination is primarily based on the expectation that, immediately following the merger: (i) Neurogene's equity holders will own approximately 84%, a substantial majority of the voting rights in the combined company; (ii) Neurogene's largest stockholder will retain the largest interest in the combined company; (iii) Neurogene will designate a majority (five of seven) of the members of the board of directors of the combined company; and (iv) Neurogene's management team will become the management team of the combined company.

Management concluded that this transaction should be accounted for as a reverse asset purchase as Neoleukin does not meet the definition of a business under ASC 805 but it does represent a group of assets. For accounting purposes, in accordance with ASC 805: (i) the merger will be treated as the equivalent of Neurogene issuing stock to acquire the net assets of Neoleukin, (ii) all non-monetary assets will be reduced to zero in accordance with the fair value allocation accounting for asset purchases, (iii) the monetary net assets of Neoleukin will be recorded based on their fair value in the financial statements at the time of closing, substantially all of which are expected to consist primarily of cash and cash equivalents, short-term investments, and the historical carrying value of other immaterial monetary assets, and therefore all monetary assets are expected to approximate their fair values, and (iv) the reported historical operating results of the combined company prior to the merger will be those of Neurogene.

The unaudited pro forma condensed combined balance sheet assumes that the Neurogene pre-closing financing and the merger were consummated on June 30, 2023, and combines the historical balance sheets of Neoleukin and Neurogene as of such date. The unaudited pro forma condensed combined statements of operations for the six months ended June 30, 2023, and for the year ended December 31, 2022, assumes that the Neurogene pre-closing financing and the merger were consummated as of January 1, 2022, and combines the historical results of Neoleukin and Neurogene for the respective periods presented.

The selected unaudited pro forma condensed combined financial data are presented for illustrative purposes only and are not necessarily indicative of the combined financial position or results of operations of future periods or the results that actually would have been realized had the entities been a single entity during these periods. The selected unaudited pro forma condensed combined financial data as of and for the six months ended June 30, 2023, and for the year ended December 31, 2022, are derived from the unaudited pro forma condensed combined financial information and should be read in conjunction with that information. For more information, please see the section entitled "*Unaudited Pro Forma Condensed Combined Financial Information*" in this proxy statement/prospectus.

Selected Unaudited Pro Forma Condensed Combined Statements of Operations:

	Six Months Ended June 30, 2023	Year Ended December 31, 2022
	(in thousands, except share and per share data)	
Operating expenses:		
Research and development	$ 27,867	$ 88,634
General and administrative	12,546	33,029
Impairment of property and equipment	3,418	—
Total operating expenses	43,831	121,663
Loss from operations	(43,831)	(121,663)
Interest income	3,446	2,919
Other income (expense), net	(27)	7,742
Net loss	$ (40,412)	$ (111,002)
Net loss per share, basic and diluted	$ (0.12)	$ (0.32)
Weighted average common shares outstanding, basic and diluted	345,448,001	343,853,659

Selected Unaudited Pro Forma Condensed Combined Balance Sheet Data:

	June 30, 2023 (in thousands)
Cash and cash equivalents	$ 179,192
Short-term investments	50,952
Working capital (1)	213,682
Total assets	257,593
Total liabilities	55,703
Accumulated deficit	(176,037)
Total stockholders' equity	201,890

(1) Working capital is defined as current assets less current liabilities.

UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION

Defined terms included below shall have the same meaning as terms defined and included elsewhere in this proxy statement/prospectus.

The following unaudited pro forma condensed combined financial information is based on the historical consolidated financial statements of Neoleukin and Neurogene, adjusted to give effect to the merger of the companies and to the issuance of shares of Neurogene common stock and Neurogene pre-funded warrants in the Neurogene pre-closing financing, which will be exchanged for Neoleukin common stock and pre-funded warrants, respectively, at the time of closing. The unaudited pro forma condensed combined balance sheet as of June 30, 2023 reflects adjustments that depict the accounting for the merger and the Neurogene pre-closing financing as if the transactions were consummated on June 30, 2023. The unaudited pro forma condensed combined statements of operations for the six months ended June 30, 2023 and the year ended December 31, 2022 reflects adjustments that depict the accounting for the merger and the Neurogene pre-closing financing as if the transactions were consummated on January 1, 2022.

The unaudited pro forma condensed combined financial statements have been derived from and should be read in connection with:

- the accompanying notes to the unaudited pro forma condensed combined financial statements;
- the historical unaudited condensed financial statements of Neoleukin as of and for the six months ended June 30, 2023 and the related notes included elsewhere in this proxy statement/prospectus;
- the historical unaudited condensed financial statements of Neurogene as of and for the six months ended June 30, 2023 and the related notes included elsewhere in this proxy statement/prospectus;
- the historical audited financial statements of Neoleukin as of and for the year ended December 31, 2022 and the related notes included elsewhere in this proxy statement/prospectus;
- the historical audited financial statements of Neurogene as of and for the year ended December 31, 2022 and the related notes included elsewhere in this proxy statement/prospectus;
- the sections entitled "*Neoleukin Management's Discussion and Analysis of Financial Condition and Results of Operations*," "*Neurogene Management's Discussion and Analysis of Financial Condition and Results of Operations*," and other financial information relating to Neoleukin and Neurogene included elsewhere in this proxy statement/prospectus.

The unaudited pro forma condensed combined financial information is based on the assumptions and adjustments that are described in the accompanying notes. The accounting for the merger requires the financial calculation of Neoleukin Net Cash (as defined in the Merger Agreement). Accordingly, the pro forma adjustments are preliminary, subject to further revision as additional information becomes available and additional analyses are performed, and have been made solely for the purpose of providing unaudited pro forma condensed combined financial information. Differences between these preliminary estimates and the final accounting, expected to be completed after the closing, will occur and these differences could have a material impact on the accompanying unaudited pro forma condensed combined financial information and the combined company's future results of operations and financial position.

The unaudited pro forma condensed combined financial information does not give effect to the potential impact of current financial conditions, regulatory matters, operating efficiencies or other savings or expenses that may be associated with the integration of the two companies. The unaudited pro forma condensed combined financial information is not necessarily indicative of the financial position or results of operations in the future periods or the result that actually would have been realized had Neoleukin and Neurogene been a combined organization during the specified periods. The actual results reported in periods following the merger may differ significantly from those reflected in the unaudited condensed combined pro forma financial information presented herein for a number of reasons, including, but not limited to, differences in the assumptions used to prepare this unaudited pro forma condensed combined financial information.

UNAUDITED PRO FORMA CONDENSED COMBINED BALANCE SHEET
AS OF JUNE 30, 2023
(in thousands)

	Historical						
	Neurogene	Neoleukin	Pre-Closing Financing Adjustments	Note 5	Transaction Accounting Adjustments	Note 5	Pro Forma Combined Total
Assets							
Current assets:							
Cash and cash equivalents	$ 59,049	$ 31,110	$ 89,033	(a)	$ —		$ 179,192
Short-term investments	—	50,952	—		—		50,952
Prepaid expenses and other current assets	3,332	1,718	—		(920)	(d)	4,130
Total current assets	62,381	83,780	89,033		(920)		234,274
Deferred offering costs	623	—	—		(623)	(e)	—
Property and equipment, net	18,651	561	—		(561)	(d)	18,651
Operating lease right-of-use asset	4,020	9,135	—		(9,135)	(d)	4,020
Finance lease right-of-use asset	119	—	—		—		119
Other non-current assets	—	529	—		—		529
Total assets	$ 85,794	$ 94,005	$ 89,033		$ (11,239)		$ 257,593
Liabilities, convertible preferred stock and stockholders' equity (deficit)							
Current liabilities:							
Accounts payable	$ 1,529	$ 14	$ —		$ —		$ 1,543
Accrued expenses and other current liabilities	4,559	3,373	—		6,049	(b)	16,802
					2,821	(f)	
Operating lease liabilities, current	715	1,490	—		—		2,205
Finance lease liabilities, current	39	3	—		—		42
Total current liabilities	6,842	4,880	—		8,870		20,592
Operating lease liabilities, non-current	3,553	9,543	—		—		13,096
Finance lease liabilities, non-current	86	6	—		—		92
Contingent consideration liability	—	—	—		21,923	(d)	21,923
Total liabilities	10,481	14,429	—		30,793		55,703
Series A-1 convertible preferred stock	34,414	—	—		(34,414)	(c)	—
Series A-2 convertible preferred stock	28,675	—	—		(28,675)	(c)	—
Series B convertible preferred stock	181,277	—	—		(181,277)	(c)	—
Stockholders' equity (deficit):							
Neurogene common stock	1	—	5	(a)	(6)	(d)	—
Neoleukin common stock	—	—	—		35	(c)	35
Additional paid-in capital	5,906	546,933	89,028	(a)	244,366	(c)	377,892
					39,215	(d)	
					(546,933)	(d)	
					(623)	(e)	
Accumulated other comprehensive (loss) income	—	(13)	—		13	(d)	—
Accumulated deficit	(174,960)	(467,344)	—		(6,049)	(b)	(176,037)
					(2,821)	(f)	
					7,793	(d)	
					467,344	(d)	
Total stockholders' equity (deficit)	(169,053)	79,576	89,033		202,334		201,890
Total liabilities, convertible preferred stock and stockholders' equity	$ 85,794	$ 94,005	$ 89,033		$ (11,239)		$ 257,593

See accompanying notes to the pro forma condensed combined financial statements

UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS
FOR THE SIX MONTHS ENDED JUNE 30, 2023
(in thousands, except share and per share data)

	Historical						
	Neurogene	Neoleukin	Pre-Closing Financing Adjustments	Note 5	Transaction Accounting Adjustments	Note 5	Pro Forma Combined Total
Operating expenses							
Research and development	$ 20,604	$ 7,263	$ —		$ —		$ 27,867
General and administrative	5,027	7,519	—		—		12,546
Impairment of property and equipment	—	3,418	—		—		3,418
Total operating expenses	25,631	18,200	—		—		43,831
Loss from operations	(25,631)	(18,200)	—		—		(43,831)
Interest income	1,520	1,926	—		—		3,446
Other income (expense), net	(12)	(15)	—		—		(27)
Net loss	$ (24,123)	$ (16,289)	$ —		$ —		$ (40,412)
Other comprehensive income (loss):							
Unrealized loss on available-for-sale securities	—	8					8
Comprehensive loss	(24,123)	(16,281)					(40,404)
Net loss per share, basic and diluted	$ (4.15)	$ (0.29)					$ (0.12)
Weighted average common shares outstanding, basic and diluted	5,807,917	55,791,808				(g)	345,448,001

See accompanying notes to the pro forma condensed combined financial statements

UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS
FOR THE YEAR ENDED DECEMBER 31, 2022
(in thousands, except share and per share data)

	Historical						
	Neurogene	Neoleukin	Pre-Closing Financing Adjustments	Note 5	Transaction Accounting Adjustments	Note 5	Pro Forma Combined Total
Operating expenses							
Research and development	$ 47,505	$ 41,129	$ —		$ —		$ 88,634
General and administrative	9,012	17,968	—		6,049	(b)	33,029
Total operating expenses	56,517	59,097	—		6,049		121,663
Loss from operations	(56,517)	(59,097)	—		(6,049)		(121,663)
Interest income	1,337	1,582	—		—		2,919
Other income (expense), net	(9)	(42)	—		7,793	(d)	7,742
Net loss	$ (55,189)	$ (57,557)	$ —		$ 1,745		$ (111,002)
Other comprehensive income (loss):							
Unrealized loss on available-for-sale securities	—	(21)					(21)
Comprehensive loss	(55,189)	(57,578)					(111,023)
Net loss per share, basic and diluted	$ (10.58)	$ (1.04)					$ (0.32)
Weighted average common shares outstanding, basic and diluted	5,218,694	55,221,161				(g)	343,853,659

See accompanying notes to the pro forma condensed combined financial statements

NOTES TO THE UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION

1. Description of the Transactions

The Merger

On July 17, 2023, Neoleukin, Merger Sub, and Neurogene entered into the Merger Agreement, pursuant to which, and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly-owned subsidiary of Neoleukin. After the completion of the merger, Neoleukin will change its corporate name to "Neurogene Inc." The merger is intended to qualify for federal income tax purposes as a tax-free reorganization under the provisions of Section 368(a) of the Internal Revenue Code of 1986, as amended. If the merger is completed, the business of Neurogene will continue as the business of the combined company.

Subject to the terms and conditions of the Merger Agreement, at the effective time of the merger, each outstanding share of Neurogene capital stock (including shares of Neurogene common stock, Neurogene preferred stock and shares of Neurogene common stock and pre-funded warrants issued in the Neurogene pre-closing financing) (excluding shares of Neurogene common stock to be canceled pursuant to the Merger Agreement and excluding dissenting shares) will be converted solely into the right to receive a number of shares of Neoleukin common stock or Neoleukin pre-funded warrants, as elected by the Neurogene stockholder and calculated in accordance with the Merger Agreement, equal to the exchange ratio calculated in accordance with the Merger Agreement (the "Exchange Ratio"). The Exchange Ratio is estimated to be approximately 1.7374 shares of Neoleukin common stock for each share of Neurogene's common stock. Immediately after the merger, Neoleukin securityholders are expected to own approximately 16% of the outstanding shares of capital stock of the combined company, legacy Neurogene securityholders, excluding shares of Neurogene common stock and Neurogene pre-funded warrants purchased in the Neurogene pre-closing financing, are expected to own approximately 57% of the outstanding shares of the combined company, and holders of shares of Neurogene common stock and Neurogene pre-funded warrants issued in the Neurogene pre-closing financing are expected to own approximately 27% of the outstanding shares of capital stock of the combined company, subject to certain assumptions, including, but not limited to, (a) Neoleukin's net cash as of the closing being approximately $66.0 million, (b) gross aggregate proceeds of approximately $95.0 million in the Neurogene pre-closing financing described below, (c) a valuation for Neoleukin equal to its net cash as of the business day immediately prior to the closing date of the merger, and (d) a valuation for Neurogene equal to $295.0 million, including the gross proceeds of the Neurogene pre-closing financing, in each case as further described in the Merger Agreement.

The merger will be accounted for as a reverse asset purchase, with any difference between the consideration to be transferred in the merger and the fair value of the net assets acquired to be allocated to any non-monetary assets on a pro-rata basis. Management concluded that this transaction should be accounted for as a reverse asset purchase as Neoleukin does not meet the definition of a business under ASC 805 but it does represent a group of assets. On a pro forma basis, assuming the merger was consummated on June 30, 2023, the fair value of the net assets acquired, including aggregate cash and cash equivalents, short-term investments, and other immaterial monetary assets, totaling approximately $83.4 million, exceeded the value of consideration transferred, and in accordance with ASC 323, (i) $21.9 million of the difference was recorded to a contingent consideration liability for the aggregate fair value of the components of the Contingent Value Rights Agreement described below and (ii) the remaining $7.8 million difference was recorded as a gain to other income (expense), net. As Neoleukin's target net cash is expected to be approximately $66.0 million upon closing, and the estimated purchase price is subject to other potential market factors, (i) the portion of the difference recorded to other income (expense), net is expected to be eliminated upon closing and (ii) the portion of the difference recorded to contingent consideration liability is expected to be reduced upon closing.

Because, among other factors, the number of shares of Neoleukin common stock issuable to Neurogene's securityholders is determined based on Neoleukin's net cash balance on the business day prior to the anticipated closing date of the merger and the capitalization of Neurogene and Neoleukin at such closing, Neoleukin

securityholders cannot be certain of the exact number of shares that will be issued to (or reserved for issuance to) Neurogene's stockholders. The Exchange Ratio referenced above is an estimate only and the final Exchange Ratio will be determined pursuant to a formula described in detail in the Merger Agreement and included elsewhere in this proxy statement/prospectus.

Each stock option granted under Neurogene's 2018 Equity Incentive Plan that is outstanding immediately prior to the effective time of the merger will be assumed by Neoleukin and will become an option to acquire, on the same terms and conditions as were applicable to such Neurogene option immediately prior to the effective time of the merger, a number of shares of Neoleukin common stock equal to the number of shares of Neurogene's common stock subject to the unexercised portion of the Neurogene option immediately prior to the effective time of the merger, multiplied by the Exchange Ratio (rounded down to the nearest whole share number) with an exercise price per share for the options equal to the exercise price per share of such Neurogene option immediately prior to the effective time of the merger divided by the Exchange Ratio (rounded up to the nearest whole cent). Such assumed options will continue to be governed by the terms and conditions of Neurogene's 2018 Equity Incentive Plan.

Under the terms of the Merger Agreement, prior to the closing of the merger, the board of directors of Neoleukin will take actions to accelerate the vesting of (i) each unexercised and unvested Neoleukin option that has an exercise price per share less than $3.78 that is held by a current employee, director or consultant of Neoleukin as of immediately prior to the effective time (or who ceases to be a current employee, director or consultant of Neoleukin as of immediately prior to the effective time) and (ii) restricted stock units that vest solely on the basis of time, in each case, in accordance with the terms of the Merger Agreement. In addition, two Neoleukin executives will be entitled to extended option exercise periods upon a change in control, as defined, pursuant to the terms of their employment agreements, as amended. The terms of the employment agreements were negotiated prior to entering into negotiations for the merger with Neurogene. The (i) acceleration of vesting of the Neoleukin options and restricted stock units and (ii) extension of the option exercise periods will be treated as a modification of the awards. The incremental fair value associated with the modification was immaterial and is not included as an adjustment to the unaudited pro forma condensed combined financial statements.

The pre-merger employment agreements for the two Neoleukin executives also included severance, bonus and retention payments, the aggregate of which will be treated as pre-combination compensation expense of Neoleukin and is included in the liabilities assumed by Neurogene upon closing of the merger. In addition, certain non-executive Neoleukin employees entered into separation agreements prior to merger negotiations with Neurogene, pursuant to which they are entitled to severance, bonus, and retention payments. These payments will be treated as pre-combination compensation expense of Neoleukin and will also be included in the liabilities assumed by Neurogene upon closing of the merger.

Contingent Value Rights Agreement

At the effective time of the merger, each person who as of immediately prior to the effective time was a stockholder of Neoleukin or had the right to receive Neoleukin common stock pursuant to an existing Neoleukin pre-funded warrant will be entitled to receive a contractual CVR issued by Neoleukin subject to and in accordance with the terms and conditions of the CVR Agreement, representing the right to receive consideration from the post-closing combined company upon the receipt of certain proceeds from a disposition of Neoleukin pre-merger assets and pre-merger liabilities, including contingent payments earned related to such pre-merger assets and pre-merger liabilities, in each case, calculated in accordance with the CVR Agreement. Any shares subsequently issued upon exercise of an option to purchase Neoleukin common stock held by an employee, director or consultant of Neoleukin as of immediately prior to the effective time will also be entitled to one CVR per such issued share; provided, however that pursuant to the CVR Agreement, the holder of such later issued CVR will not be entitled to receive any payments made on the CVR prior to such issuance. While the CVR meets the scope exception from derivative accounting, a liability will be recorded as the result of an excess in fair value of the net assets acquired over the estimated total consideration. This liability will be recorded at the lesser of the maximum amount under the CVR or the amount at which the fair value of net assets acquired equals the total consideration.

Pursuant to, and subject to the terms and conditions of, the CVR Agreement, each CVR holder is entitled to certain rights to receive, during a period from the closing of the merger until June 30, 2029 (the "CVR term"), a pro rata portion of (i) a reduction, if any, in the liabilities of Neoleukin's lease obligations resulting from a termination, assignment or sublease of any such lease obligation (referred to below as the "Lease CVR"), up to a maximum amount of $21.6 million as of June 30, 2023, and (ii) the net proceeds, if any, derived from (a) 100% of any cash consideration and the actual liquidation value of any non-cash consideration of any kind that is paid to Neoleukin as a result of disposition (including any disposition providing for milestone payments, royalty payments or similar payments received pursuant to licensing arrangements or strategic partnerships) of certain Neoleukin pre-merger assets occurring prior to the closing of the merger, (b) 80% of all cash consideration and the actual liquidation value of any non-cash consideration of any kind that is paid to Neoleukin as a result of a disposition (including any disposition providing for milestone payments, royalty payments or similar payments received pursuant to licensing arrangements or strategic partnerships) of certain Neoleukin pre-merger assets occurring subsequent to the closing of the merger and within 12 months thereafter, and (c) 100% of any tax refunds from the State of Washington received relating to tax returns filed by Neoleukin prior to the closing of the merger (referred to below as the "Sales Tax CVR"), with respect to such net proceeds, at a maximum amount of approximately $0.3 million. There was no value assigned to the disposition providing for milestone, royalty, or similar payments (referred to below as the "Intellectual Property CVR").

Neurogene Pre-Closing Financing

Concurrently with the execution and delivery of the Merger Agreement, certain parties have entered into agreements with Neurogene pursuant to which they have agreed, subject to the terms and conditions of such agreements, to purchase, prior to the consummation of the merger, approximately 38.2 million shares of Neurogene common stock and Neurogene pre-funded warrants to purchase approximately 16.4 million shares of Neurogene common stock for an aggregate gross purchase price of approximately $95.0 million, before $6.0 million in transaction costs incurred related to the pre-closing financing. The consummation of the transactions contemplated by such agreements is conditioned on the satisfaction or waiver of the conditions set forth in the Merger Agreement. Shares of Neurogene common stock and Neurogene pre-funded warrants issued pursuant to the Neurogene pre-closing financing will be converted into the right to receive shares of common stock and pre-funded warrants, respectively, of Neoleukin in the merger in accordance with the Exchange Ratio at the effective time.

The merger is contingent upon the consummation of the Neurogene pre-closing financing, which is expected to close immediately prior to the closing of the merger. If the Neurogene pre-closing financing does not close, Neurogene and Neoleukin are not required to complete the merger. Based on an assessment of the Neurogene pre-funded warrants specific terms in the draft agreement and applicable authoritative guidance in ASC 480 and ASC 815, the combined company will classify the Neurogene pre-funded warrants within permanent equity.

2. Basis of Pro Forma Presentation

The unaudited pro forma condensed combined financial information was prepared in accordance with GAAP and pursuant to the rules and regulations of Article 11 of Regulation S-X. The unaudited pro forma condensed combined balance sheet as of June 30, 2023 was prepared using the historical balance sheets of Neoleukin and Neurogene as of June 30, 2023, and gives effect to the merger and the Neurogene pre-closing financing as if it occurred on June 30, 2023. The unaudited pro forma condensed combined statement of operations for the six months ended June 30, 2023, and for the year ended December 31, 2022, were prepared using the historical statements of operations and comprehensive loss of Neoleukin and Neurogene for the six months ended June 30, 2023 and for the year ended December 31, 2022, respectively, and gives effect to the merger and the Neurogene pre-closing financing as if it occurred on January 1, 2022.

Notwithstanding the legal form of the merger pursuant to the Merger Agreement, the merger represents a reverse asset purchase in accordance with GAAP. Accordingly, for accounting purposes: (i) the merger will be

treated as the equivalent of Neurogene issuing stock to acquire the net assets of Neoleukin, (ii) all non-monetary assets will be reduced to zero in accordance with the fair value allocation accounting for asset purchases, (iii) the monetary net assets of Neoleukin will be recorded based on their fair value in the financial statements at the time of closing, substantially all of which are expected to consist primarily of cash and cash equivalents, short-term investments, and other monetary assets, and therefore expected to approximate their historical carrying values, and (iv) the reported historical operating results of the combined company prior to the merger will be those of Neurogene.

Accounting rules require evaluation of certain assumptions, estimates, or determination of financial statement classifications. The accounting policies of Neoleukin may materially vary from those of Neurogene. During preparation of the unaudited pro forma condensed combined financial information, management has performed a preliminary analysis and is not aware of any material differences, and accordingly, this unaudited pro forma condensed combined financial information assumes no material differences in accounting policies. Following the merger and the Neurogene pre-closing financing, management will conduct a final review of Neoleukin accounting policies in order to determine if differences in accounting policies require adjustment or reclassification of Neoleukin results of operations or reclassification of assets or liabilities to conform to Neurogene's accounting policies and classifications. As a result of this review, management may identify differences that, when conformed, could have a material impact on this unaudited pro forma condensed combined financial information.

Neurogene and Neoleukin may incur significant costs associated with integrating their operations after the merger is completed. The unaudited pro forma condensed combined financial information does not reflect the costs of any integration activities or benefits that may result from realization of future cost savings from operating efficiencies which may result from the merger.

To the extent that there are significant changes to the business following completion of the merger, the assumptions and estimates set forth in the unaudited pro forma condensed financial information could change significantly. Accordingly, the pro forma adjustments are subject to further adjustments as additional information becomes available and as additional analyses are conducted following the completion of the merger. There can be no assurances that these additional analyses will not result in material changes to the estimates of fair value.

3. Preliminary Estimated Purchase Price

For purposes of these unaudited pro forma condensed combined financial information, the total estimated purchase price is summarized as follows (in thousands, except share and per share amounts):

Estimated number of common shares of the combined company to be owned by Neoleukin stockholders (1)	55,540,191
Multiplied by the fair value per share of Neoleukin common stock (2)	$ 0.65
Estimated fair value of Neoleukin common stock issued	$ 36,101
Estimated transaction costs (3)	3,142
Contingent consideration liability (4)	21,923
Estimated purchase price	$ 61,166

(1) The final purchase price will be determined based on the number of Neoleukin common shares outstanding as of the closing date of the merger. For purposes of this unaudited pro forma condensed combined financial information, the estimated number of shares is based on a total of 55,540,191 shares of Neoleukin common stock outstanding as of August 7, 2023. The 55,540,191 shares is fully diluted and inclusive of 11,482,996 existing Neoleukin pre-funded warrants.

(2) The estimated purchase price was based on the closing price of Neoleukin common stock as reported on the Nasdaq Global Market on August 7, 2023.
(3) The estimated transaction costs incurred by Neurogene is based on estimates as of August 7, 2023. As indicated in ASC 805 regarding asset purchases, the accounting acquirer's transaction costs incurred directly related to the asset purchase should be included in the consideration to acquire the assets.
(4) The contingent consideration liability consists of (i) $21.6 million for the Lease CVR and (ii) $0.3 million for the Sales Tax CVR. As noted above, there was $0 value assigned to the Intellectual Property CVR. Further discussion of the CVR is included above within *Contingent Value Rights Agreement*.

The estimated purchase consideration reflected in this unaudited pro forma condensed combined financial information does not purport to represent what the actual purchase consideration will be when the merger is completed. The actual purchase price will fluctuate until the effective time of the merger.

4. Shares of Neoleukin Common Stock Issued to Neurogene's Stockholders Upon Closing of the Merger

At the effective time of the merger, Neoleukin expects to issue 289,761,124 shares of common stock to the stockholders of Neurogene in the merger, determined as follows:

	Shares
Neurogene shares of common stock outstanding	5,881,264
Shares of Neurogene convertible preferred stock outstanding	106,301,580
Estimated shares of Neurogene common stock and pre-funded warrants to be issued upon consummation of the Pre-Closing Financing	54,599,041
Total Neurogene common equivalent shares	166,781,885
Exchange Ratio	1.7374
Estimated shares of Neoleukin common stock to be issued to Neurogene shareholders upon closing of the merger	289,761,124

5. Transaction Accounting Adjustments

Adjustments included in the column under the heading "Transaction Accounting Adjustments" are primarily based on information contained within the subscription agreement for the Neurogene pre-closing financing and the Merger Agreement. Further analysis will be performed upon completion of the merger to confirm these estimates.

Based on a review of Neoleukin's summary of significant accounting policies, the nature and amount of any adjustments to the historical consolidated financial statements of Neoleukin to conform to the accounting policies of Neurogene are not expected to be significant.

Both Neurogene and Neoleukin have a history of generating net operating losses and maintain a full valuation allowance against their net deferred tax assets. As a result, both entities have not reflected an income tax benefit or expense within the historical financial statement periods presented. Management has not identified any changes to the income tax positions due to the merger that would result in an incremental tax expense or benefit. Accordingly, no tax-related adjustments have been reflected for the pro forma adjustments.

The pro forma adjustments, based on preliminary estimates that may change significantly as additional information is obtained, are as follows:

(a) To reflect $95.0 million in gross proceeds, less estimated issuance costs of $6.0 million, in connection with the consummation of the Neurogene pre-closing financing, in which approximately 38.2 million shares of Neurogene common stock and Neurogene pre-funded warrants to acquire approximately 16.4 million shares of Neurogene common stock are to be issued.

(b) To reflect Neoleukin's preliminary estimated transaction costs of $6.0 million in connection with the merger, such as advisor fees, legal fees, printer fees, and accounting expenses, including the $1.6 million cost of a D&O tail policy. The $6.0 million represents the total estimated transaction costs to be incurred after June 30, 2023. The adjustment was recorded as an increase in accrued liabilities and general and administrative expenses of $6.0 million and a corresponding increase in accumulated deficit of $6.0 million.

(c) To reflect the exchange of (i) 18,604,653 shares of Neurogene Series A-1 convertible preferred stock, (ii) 13,291,208 shares of Neurogene Series A-2 convertible preferred stock, and (iii) 74,404,719 shares of Neurogene Series B convertible preferred stock into shares of Neoleukin common stock based on the Exchange Ratio.

(d) To reflect the reverse asset purchase, as summarized in the table below:

Fair value of monetary assets acquired	$ 83,388
Less total consideration transferred:	
Estimated fair value of Neoleukin common stock issued	(36,101)
Estimated transaction costs allocated to the reverse asset purchase	(3,142)
Neoleukin liabilities assumed	(14,429)
Excess of fair value of monetary assets acquired over total consideration transferred:	$ 29,716
Fair value allocated to contingent consideration liability	21,923
Fair value allocated to other income (expense), net	7,793
	$ 29,716

Prior to determining the excess fair value of monetary assets acquired over the total consideration transferred, in accordance with ASC 805, all non-monetary assets were reduced to zero in accordance with the fair value allocation accounting for asset purchases, which is also reflected within adjustment 5(d) in the unaudited pro forma combined balance sheet and income statement. The remaining monetary assets of Neoleukin are recorded based on their fair values in the financial statements at the time of closing, which for the unaudited pro forma combined balance sheet, are their relative carrying values as of June 30, 2023.

As Neoleukin's target net cash is expected to be approximately $66.0 million upon closing, and the estimated purchase price is subject to other potential market factors, (i) the portion of the difference recorded to other income (expense), net) is expected to be eliminated upon closing and (ii) the portion of the difference recorded to contingent consideration liability is expected to be reduced upon closing.

Further, as also reflected in adjustment 5(d) and not shown in this table, is the elimination of Neoleukin's historical equity.

(e) To reflect $0.6 million in Neurogene deferred offering costs that will get reclassified to additional paid-in capital upon closing of the merger.

(f) To reflect Neoleukin's estimated compensation expense of $2.8 million related to severance, retention, and bonus payments that were negotiated pre-merger but had not yet been paid or fully accrued for as of June 30, 2023. As such, the $2.8 million is recorded as an assumed liability within the unaudited combined pro forma balance sheet as of June 30, 2023 and offset to accumulated deficit. As it is considered a preacquisition expense, there is no related adjustment within the unaudited pro forma statements of operations.

(g) The pro forma combined basic and diluted earnings per share have been adjusted to reflect the pro forma net losses for the six months ended June 30, 2023, and the year ended December 31, 2022. In addition, the number of shares used to calculate the pro forma combined basic and diluted net loss per share has been adjusted to reflect the estimated total number of shares of common stock of the

combined company that would be outstanding as of the merger closing date, including the shares to be issued in the Neurogene pre-closing financing. For the six months ended June 30, 2023, and the year ended December 31, 2022, the pro forma weighted average shares outstanding has been calculated as follows:

	June 30, 2023	December 31, 2022
Weighted-average Neurogene common shares outstanding—basic and diluted	5,807,917	5,218,694
Neurogene pre-closing financing assuming consummation as of January 1, 2022	54,599,041	54,599,041
Neurogene convertible preferred stock as of January 1, 2022	106,301,580	106,301,580
Total	166,708,538	166,119,315
Application of exchange ratio to historical Neurogene weighted-average shares outstanding	1.7374	1.7374
Adjusted weighted-average Neurogene common shares outstanding—basic and diluted	289,633,693	288,609,998
Impact of Neoleukin common stock awards that accelerated vesting as of January 1, 2022	22,500	22,500
Weighted-average Neoleukin common shares outstanding—basic and diluted	55,791,808	55,221,161
Pro forma combined weighted average number of shares of common stock—basic and diluted	345,448,001	343,853,659

(h) The total impact to equity for the above adjustments are reflected in the table below:

(in thousands, except share data)		Preferred Stock Neurogene Shares	Preferred Stock Neurogene Amount	Common Stock Neurogene Shares	Common Stock Neurogene Amount	Common Stock Neoleukin Shares	Common Stock Neoleukin Amount	Additional Paid-in-Capital	Accumulated Deficit	AOCI	Stockholders' equity
Exchange of Neurogene convertible preferred stock into Neoleukin common stock based on the assumed Exchange Ratio	(c)	(106,301,580)	$ —	—	$ —	184,684,717	$ 18	$ 244,366	$ —	$ —	$ 244,384
Neurogene pre-closing financing	(a)	—	—	54,599,041	5	—	—	89,028	—	—	89,033
Elimination of Neoleukin's historical equity carrying value	(d)	—	—	—	—	(44,021,429)	—	(546,933)	467,344	13	(79,576)
Exchange of outstanding Neurogene common stock into Neoleukin common stock based on the assumed Exchange Ratio	(d)	—	—	(60,480,305)	(6)	105,076,407	11	—	—	—	5
Reverse asset purchase	(d)		—	—	—	55,540,191	6	39,215	7,793	—	47,014
Severance costs negotiated pre-merger	(f)	—	—	—	—	—	—	—	(2,821)	—	(2,821)
Reclassification of Neurogene deferred offering costs to additional paid-in capital upon closing of the merger	(e)							(623)			(623)
Transaction costs associated with the merger	(b)	—	—	—	—	—	—	—	(6,049)	—	(6,049)
Total adjustment		(106,301,580)	$ —	(5,881,264)	$ (1)	301,279,886	$ 35	$ (174,947)	$ 466,267	$ 13	$ 291,367

DESCRIPTION OF NEOLEUKIN CAPITAL STOCK

The following description of Neoleukin capital stock and provisions of Neoleukin's charter and bylaws are summaries and are qualified by reference to such charter and bylaws and applicable provisions of Delaware corporate law. Copies of these documents are filed as exhibits to the registration statement of which this proxy statement/prospectus forms part.

Authorized Capital Stock

Neoleukin's authorized capital stock consists of 100,000,000 shares of Neoleukin common stock, par value $0.000001 per share, and 5,000,000 shares of Neoleukin preferred stock, par value $0.000001 per share.

Common Stock

Voting Rights

Each holder of Neoleukin's common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Under Neoleukin's charter and bylaws, Neoleukin's stockholders do not have cumulative voting rights. Because of this, the holders of a majority of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose.

Dividends

Subject to preferences that may be applicable to any then-outstanding preferred stock, holders of common stock are entitled to receive ratably those dividends, if any, as may be declared from time to time by the board of directors out of legally available funds.

Liquidation

In the event of Neoleukin's liquidation, dissolution or winding up, holders of common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of Neoleukin's debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then-outstanding shares of preferred stock.

Rights and Preferences

Holders of common stock have no preemptive, conversion or subscription rights and there are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that Neoleukin may designate in the future.

Preferred Stock

Under Neoleukin's charter, Neoleukin's board of directors is authorized by resolution to divide the authorized preferred stock into series and, with respect to each series, to determine the designations and the powers, preferences and rights, and the qualifications, limitations and restrictions thereof, including the dividend rights, conversion or exchange rights, voting rights, redemption rights and terms, liquidation preferences, sinking fund provisions and the number of shares constituting the series. Neoleukin's board of directors can, without stockholder approval but subject to the terms of the Neoleukin charter, issue preferred stock with voting and other rights that could adversely affect the voting power of the holders of Neoleukin's common stock and which could have certain anti-takeover effects. Before Neoleukin may issue any series of preferred stock, Neoleukin's board of directors will be required to adopt resolutions creating and designating such series of preferred stock.

Warrants

As of June 30, 2023, there were Neoleukin existing pre-funded warrants outstanding to purchase 11,483,010 shares of common stock.

Exercisability

The Neoleukin existing pre-funded warrants are exercisable at any time after their original issuance. The Neoleukin existing pre-funded warrants will be exercisable, at the option of each holder, in whole or in part by delivering to Neoleukin a duly executed exercise notice and by payment in full of the exercise price in immediately available funds for the number of shares of common stock purchased upon such exercise. As an alternative to payment in immediately available funds, the holder may, in its sole discretion, elect to exercise the warrant through a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the Neoleukin warrant. No fractional common stock will be issued in connection with the exercise of a Neoleukin warrant. In lieu of fractional shares, Neoleukin will pay the holder an amount in cash equal to the fractional amount multiplied by the fair market value of any fractional shares.

Exercise Limitations

Under the terms of the Neoleukin existing pre-funded warrants, Neoleukin may not effect the exercise of any Neoleukin warrant, and a holder will not be entitled to exercise any portion of any Neoleukin warrant, which, upon giving effect to such exercise, would cause (a) the aggregate number of shares of common stock beneficially owned by the holder (together with its affiliates) to exceed 9.99% of the number of shares of common stock outstanding immediately after giving effect to the exercise, or (b) the combined voting power of Neoleukin securities beneficially owned by the holder (together with its affiliates) to exceed 9.99% of the combined voting power of all of Neoleukin securities then outstanding immediately after giving effect to the exercise, as such percentage to any ownership is determined in accordance with the terms of the Neoleukin existing pre-funded warrants (the “Exercise Cap”). However, any holder may increase or decrease such percentage to any other percentage not in excess of 19.99% upon at least 61 days’ prior notice from the holder to Neoleukin. On July 18, 2023, Neoleukin received notice from certain of the holders of its outstanding existing pre-funded warrants to increase the Exercise Cap up to 19.99%, effective 61 days from the date of such notice.

Exercise Price

The exercise price per whole common stock purchasable upon the exercise of the Neoleukin existing pre-funded warrants is $0.000001 per warrant share. The exercise price of the Neoleukin existing pre-funded warrants is subject to appropriate adjustment in the event of certain share dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting Neoleukin’s common stock.

Anti-Takeover Effects of Neoleukin’s Charter Documents and Some Provisions of Delaware Law

Delaware Law

Neoleukin is subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- Before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (1) by persons

who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a "business combination" to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the person's affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Certificate of Incorporation and Bylaws

Neoleukin's charter provides for Neoleukin's board of directors to be divided into three classes with staggered three-year terms. Only one class of directors is elected at each annual meeting of Neoleukin's stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because Neoleukin's stockholders do not have cumulative voting rights, stockholders holding a majority of the shares of common stock outstanding are able to elect all of Neoleukin's directors. Neoleukin's charter and bylaws also provide that directors may be removed by the stockholders only for cause upon the vote of at least 66 2/3% of Neoleukin's outstanding common stock. Furthermore, the authorized number of directors may be changed only by resolution of the board of directors, and vacancies and newly created directorships on the board of directors may, except as otherwise required by law or determined by the board, only be filled by a majority vote of the directors then serving on the board, even though less than a quorum.

Neoleukin's charter and bylaws also provide that all stockholder actions must be effected at a duly called meeting of stockholders and eliminates the right of stockholders to act by written consent without a meeting. Neoleukin's bylaws also provide that only Neoleukin's chairman of the board, chief executive officer or the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors may call a special meeting of stockholders.

Neoleukin's bylaws also provide that stockholders seeking to present proposals before a meeting of stockholders to nominate candidates for election as directors at a meeting of stockholders must provide timely advance notice in writing, and specify requirements as to the form and content of a stockholder's notice.

Neoleukin's charter and bylaws provide that the stockholders cannot amend many of the provisions described above except by a vote of 66 2/3% or more of Neoleukin's outstanding common stock.

Choice of Forum

Neoleukin's charter provides that the Court of Chancery of the State of Delaware will be the exclusive forum for:

- any derivative action or proceeding brought on Neoleukin's behalf;
- any action asserting a breach of fiduciary duty; any action asserting a claim against Neoleukin arising pursuant to the Delaware General Corporation Law, Neoleukin's charter or bylaws; or
- any action asserting a claim against us that is governed by the internal affairs doctrine.

However, several lawsuits involving other companies have been brought challenging the validity of choice of forum provisions in certificates of incorporation, and it is possible that a court could note such provision is inapplicable or unenforceable.

COMPARISON OF RIGHTS OF HOLDERS OF NEOLEUKIN CAPITAL STOCK AND NEUROGENE CAPITAL STOCK

If the merger is completed, Neurogene stockholders will receive shares of Neoleukin common stock, pursuant to the terms of the Merger Agreement. Immediately prior to the closing of the merger, assuming that Proposal Nos. 2, 3 and 4 are approved by Neoleukin's stockholders, Neoleukin's charter may be amended to effect the reverse stock split, the officer exculpation and the authorized share increase, as set forth in the form of certificate of amendments attached as *Annex B* to this proxy statement/prospectus. In addition, after the completion of the merger, Neoleukin's charter will be amended to change its corporate name to "Neurogene Inc."

Neoleukin and Neurogene are both incorporated under the laws of the State of Delaware. The rights of Neoleukin stockholders and Neurogene stockholders are generally governed by the DGCL. Upon completion of the merger, Neurogene stockholders will become Neoleukin stockholders, and their rights will be governed by the DGCL, Neoleukin's bylaws and Neoleukin's charter.

The material differences between the current rights of Neurogene stockholders under the Neurogene charter and bylaws and their rights as Neoleukin stockholders, after the merger, under Neoleukin's charter and bylaws, both as will be in effect immediately following the completion of the merger and assuming that the amendments described in Proposal Nos. 2, 3 and 4 are approved, are summarized below. The summary below does not purport to be complete and is subject to, and qualified in its entirety by reference to, the DGCL and the governing corporate instruments that are subject to amendment in accordance with their terms. You should carefully read this entire document and the other referenced documents, including the governing corporate instruments, for a more complete understanding of the differences between being a stockholder of Neoleukin or Neurogene before the merger and being a stockholder of the combined company following the completion of the merger. For more information on how to obtain these documents, see the section entitled "*Where You Can Find More Information*" beginning on page 362 of this proxy statement/prospectus.

Neoleukin	Neurogene
Organizational Documents	
The rights of Neoleukin stockholders are governed by Neoleukin's charter, Neoleukin's bylaws and the DGCL.	The rights of Neurogene stockholders are governed by Neurogene's charter, Neurogene's bylaws and the DGCL. Rights of certain holders of Neurogene preferred stock are governed by the Second Amended and Restated Investors' Rights Agreement (the "Neurogene IRA"), the Second Amended and Restated Right of First Refusal and Co-Sale Agreement (the "Neurogene ROFR Agreement") and the Second Amended and Restated Voting Agreement, each dated as of March 4, 2022.
Authorized Capital Stock	
Neoleukin is authorized to issue common stock and preferred stock. The total number of shares that Neoleukin is authorized to issue is 105,000,000, of which 100,000,000 shares are common stock, par value $0.000001 per share, and 5,000,000 shares are preferred stock, par value $0.000001 per share. If Neoleukin stockholders approve Proposal No. 4, then the total number of shares Neoleukin is authorized to issues will be , of which are common stock and are preferred stock (see page 205 for more	Neurogene is authorized to issue common stock and preferred stock. The total number of shares that Neurogene is authorized to issue is 366,021,200, of which 246,010,600 shares are common stock, par value $0.0001 per share, consisting of 126,000,000 shares designated Class A Common Stock and 120,010,600 shares designated Class B Common Stock, and 120,010,600 shares are preferred stock, par value $0.0001 per share. The number of authorized shares of Neurogene common stock,

Neoleukin	Neurogene
information). The number of authorized shares of Neoleukin preferred stock may from time to time be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the voting power of the outstanding shares of Neoleukin's capital stock entitled to vote thereon, without a separate vote of the holders of the preferred stock, or of any series thereof, unless a vote of any such holders is required pursuant to the terms of any certificate of designation filed with respect to any series of Neoleukin preferred stock. The number of authorized shares of Neoleukin common stock may from time be increased and decreased in accordance with the provisions of Section 242 of the DGCL.	Class A Common Stock or Class B Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Neurogene preferred stock that may be required under the Neurogene Charter) the affirmative vote of the holders of shares of Neurogene's capital stock representing a majority of the votes represented by all outstanding shares of Neurogene's capital stock entitled to vote, irrespective of the provisions of Section 242(b)(2) of the DGCL.
Common Stock	
Neoleukin's authorized common stock consists of 100,000,000 shares of common stock, of which are issued and outstanding.	Neurogene's 246,010,600 authorized shares of common stock consist of 126,000,000 shares of Class A Common Stock, 5,881,264 of which are outstanding; and 120,010,600 shares of Class B Common Stock, none of which are issued and outstanding.
Each holder of a share of Neoleukin common stock is entitled to one vote for each such share held of record on the applicable record date on each matter voted on at a meeting of Neoleukin stockholders; provided that, except as otherwise required by law, holders of Neoleukin common stock are not entitled to vote on any amendment to the Neoleukin Charter that relates solely to the terms of one or more outstanding series of Neoleukin preferred stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more such series, to vote thereon by law or pursuant to the Neoleukin Charter (including any certificate of designation).	Each holder of a share of Neurogene Class A Common Stock is entitled to one vote for each such share held of record on the applicable record date on each matter voted on at a meeting of Neurogene stockholders; provided that, except as otherwise required by law, holders of Neurogene Class A Common Stock are not entitled to vote on any amendment to the Neurogene Charter that relates solely to the terms of one or more outstanding series of Neurogene preferred stock or Neurogene Class B Common Stock if the holders of such affected series or class are entitled, either separately or together with the holders of one or more other such series or class, to vote thereon pursuant to the Neurogene Charter or the DGCL. Holders of Neurogene Class B Common Stock are not entitled to any voting rights with respect to such shares, except as may be required by law.
Preferred Stock	
Neoleukin's 5,000,000 authorized shares of preferred stock are all undesignated preferred stock no shares of Neoleukin preferred stock are issued and outstanding.	Neurogene's 120,010,600 authorized shares of preferred stock consist of 18,604,653 shares designated as Series A-1 Preferred Stock, all of which are issued and outstanding; 13,291,208 shares designated as Series A-2 Preferred Stock, all of which are issued and outstanding; and 88,114,739 shares designated as Series B Preferred Stock,

Neoleukin	Neurogene
	74,405,719 of which are issued and outstanding. Each holder of a share of Neurogene preferred stock is entitled to the number of votes equal to the number of whole shares of Neurogene Class A Common Stock into which the shares of preferred stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as otherwise provided by law or by the Neurogene Charter, holders of Neurogene preferred stock vote together with the holders of Neurogene Class A Common Stock as a single class and on an as-converted to Neurogene common stock basis.
Number and Qualification of Directors	
The number of Neoleukin directors is fixed from time to time by resolutions adopted by a majority of the authorized number of directors constituting the Neoleukin board of directors. The Neoleukin board of directors currently consists of six members. No decrease in the authorized number of directors constituting the Neoleukin board of directors will shorten the term of any incumbent director. Directors of Neoleukin need not be stockholders of Neoleukin.	Subject to any additional vote required by the Neurogene Charter and subject to the rights of holders of any class or series of Neurogene's capital stock to elect directors, the number of directors of Neurogene is determined from time to time by the stockholders or the Neurogene board of directors. The Neurogene board of directors currently consists of six members. Directors of Neurogene need not be stockholders of Neurogene.
Structure of Board of Directors; Term of Directors; Election of Directors	
Subject to the rights of holders of any series of Neoleukin preferred stock to elect additional directors under specified circumstances, the Neoleukin board of directors is divided into three classes, designated as Class I, Class II and Class III, respectively. Directors are assigned to each class in accordance with a resolution or resolutions adopted by the Neoleukin board of directors. At each annual meeting of stockholders of Neoleukin, directors of Neoleukin are elected for a full term of three years to succeed the directors of the class whose terms expire at such annual meeting. Notwithstanding the foregoing, directors of Neoleukin elected to each class hold office until their successors are duly elected and qualified or until their earlier resignation, death or removal. Election of directors of Neoleukin need not be by written ballot.	Subject to the rights of holders of any class or series of Neurogene's capital stock to elect directors and except as otherwise provided in the Neurogene bylaws, directors of Neurogene are elected at the annual meeting of stockholders by such stockholders as have the right to vote on such election. Election of directors of Neurogene need not be by written ballot. Each director of Neurogene holds office until the next annual meeting of stockholders and until a successor is elected and qualified, or until such director's earlier death, resignation or removal. The holders of the shares of Neurogene preferred stock, voting together as a separate class on an as-converted basis, are entitled to elect three directors of Neurogene. The holders of the shares of Neurogene Class A Common Stock, exclusively and as a separate class, are entitled to elect one director of Neurogene. If the holders of shares of Neurogene preferred stock or Class A Common Stock, as the case may be, fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate class, then any directorship not so filled shall remain vacant until such time as the holders of

Neoleukin	Neurogene
	Neurogene preferred stock or Class A Common Stock, as the case may be, elect a person to fill such directorship. The holders of the shares of Neurogene Class A Common Stock and of any other class or series of voting stock (including the Neurogene preferred stock), exclusively and voting together as a single class on an as-converted basis, are entitled to elect the balance of the total number of directors of Neurogene.
Removal of Directors	
Subject to the rights of the holders of any series of Neoleukin preferred stock to elect additional directors under specified circumstances, neither the Neoleukin board of directors nor any individual director of Neoleukin may be removed without cause. Subject to any limitations imposed by applicable law, any individual director or directors of Neoleukin may be removed with cause by the affirmative vote of the holders of at least 66 2/3% of the voting power of all then-outstanding shares of Neoleukin's capital stock entitled to vote generally at an election of directors. No decrease in the authorized number of directors constituting the Neoleukin board of directors will shorten the term of any incumbent director.	Except as otherwise provided by the DGCL, a director of Neurogene, or the entire Neurogene board of directors, may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors, except that the directors elected by the holders of a particular class or series of stock may be removed without cause only by vote of the holders of a majority of the outstanding shares of such class or series.
Vacancies on the Board of Directors	
Any director of Neoleukin may resign by delivering a resignation in writing or by electronic transmission to Neoleukin at its principal office or to Neoleukin's chairperson of the board of directors, chief executive officer or secretary. Such resignation shall be effective upon delivery unless it is specified to be effective at a later time or upon the happening of an event. Subject to any limitations imposed by applicable law and subject to the rights of the holders of any series of Neoleukin preferred stock, any vacancies on the Neoleukin board of directors resulting from death, resignation, disqualification, removal or other causes and any newly created directorships resulting from any increase in the number of directors, unless the Neoleukin board of directors determines by resolution that any such vacancies or newly created directorships shall be filled by the stockholders and except as otherwise provided by applicable law, are filled only by the affirmative vote of a majority of the directors then in office, even if less than a quorum of the Neoleukin board of directors, and not by the stockholders. Any director of Neoleukin elected in accordance with the preceding sentence shall hold office for the remainder of the full term of the director for which the vacancy was created	Any director may resign by delivering a resignation in writing or by electronic transmission to Neurogene at its principal office or to Neurogene's chairman of the board of directors, chief executive officer, president or secretary. Such resignation shall be effective upon delivery unless it is specified to be effective at some later time or upon the happening of some later event. Subject to the rights of holders of any series of Neurogene preferred stock to elect directors, unless and until filled by the stockholders, any vacancy or newly-created directorship on the Neurogene board of directors, however occurring, may be filled by vote of a majority of the directors then in office, even if less than a quorum. A Neurogene director elected to fill a vacancy shall be elected for the unexpired term of such director's predecessor in office, and a director chosen to fill a position resulting from a newly-created directorship shall hold office until the next annual meeting of stockholders of Neurogene and until a successor is elected and qualified.

Neoleukin	Neurogene
or occurred and until such director's successor shall have been elected and qualified.	
Stockholder Action by Written Consent	
No action may be taken by Neoleukin stockholders except at an annual or special meeting of stockholders called in accordance with Neoleukin's bylaws, and no action may be taken by Neoleukin stockholders by written consent or electronic transmission.	Any action required or permitted to be taken at any annual or special meeting of Neurogene stockholders may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action so taken, is delivered to Neurogene signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote on such action were present and voted.
Quorum	
Except as otherwise provided by applicable law or Neoleukin's charter or bylaws, at each meeting of Neoleukin stockholders, the holders of a majority of voting power of the shares of stock issued and outstanding and entitled to vote at the meeting, present or represented by proxy, will constitute a quorum for the transaction of business; provided that where a separate vote by a class or classes or series of stock is required by applicable law or Neoleukin's charter, the holders of a majority of the voting power of the shares of such class or classes or series of the stock issued and outstanding and entitled to vote on such matter, present in person or represented by proxy at the meeting, will constitute a quorum entitled to take action with respect to the vote on such matter. If a quorum fails to attend any meeting, the chairperson of the meeting or, if directed to be voted on by the chairperson of the meeting, the holders of a majority of the voting power of the shares entitled to vote who are present in person or represented by proxy at the meeting, may adjourn the meeting. A quorum, once established at a meeting, will not be broken by the withdrawal of enough votes to leave less than a quorum.	Unless otherwise provided by law or Neurogene's charter or bylaws, the holders of a majority of voting power of the shares of Neurogene's capital stock issued and outstanding and entitled to vote at the meeting, present or represented by proxy, will constitute a quorum for the transaction of business; provided that where a separate vote by a class or classes or series of capital stock is required by law or Neurogene's charter, the holders of a majority of voting power of the shares of such class or classes or series entitled to vote on such matter, present or represented by proxy, shall constitute a quorum entitled to take action with respect to the vote on such matter. A quorum, once established at a meeting, will not be broken by the withdrawal of enough votes to leave less than a quorum.
Special Meetings of Stockholders	
Special meetings of Neoleukin stockholders may be called only by the Neoleukin board of directors and special meetings of stockholders may not be called by any other person or persons. Business transacted at any special meeting is limited to matters relating to the purpose or purposes stated in the notice of the meeting.	Special meetings of Neurogene stockholders may be called only by Neurogene's president, board of directors, chairman of the board of directors, chief executive officer or any other person designated by the Neurogene board of directors. Business transacted at any special meeting is limited to matters relating to the purpose or purposes stated in the notice of the meeting.

Neoleukin	Neurogene
Notice of Stockholder Meetings	
Notice of all meetings of Neoleukin stockholders shall be given in accordance with applicable law (including as set forth in Neoleukin's bylaws), stating the date, time and place, if any, of the meeting, the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, and the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for stockholders entitled to notice of the meeting). In the case of a special meeting, such notice shall also set forth the purpose or purposes for which the meeting is called. Unless otherwise required by applicable law or Neoleukin's charter, notice of any meeting of Neoleukin stockholders shall be given not less than 10, nor more than 60, days before the date of the meeting to each stockholder of record entitled to vote at such meeting as of the record date for determining the stockholders entitled to notice of the meeting.	Except as otherwise provided by law or waived as provided in Neurogene's bylaws, whenever Neurogene stockholders are required or permitted to take any action at a meeting, whether annual or special, written notice of the meeting shall be given stating the place, if any, date and hour of the meeting, the means of remote communications, if any, by which stockholders may be deemed to be present in person and vote at such meeting and, in the case of a special meeting, the purpose or purposes of which the meeting is called. Such written notice shall be given not less than 10 days nor more than 60 days before the date of the meeting to each Neurogene stockholder entitled to vote at the meeting.
Advance Notice Requirements for Stockholder Proposals	
Nominations of persons for election to the Neoleukin board of directors and the proposal of business other than nominations to be considered by the stockholders may be made at an annual meeting of Neoleukin stockholders only (i) pursuant to Neoleukin's notice of such meeting (or any supplement thereto), (ii) by or at the direction of the Neoleukin board of directors or (iii) by any stockholder of Neoleukin who was a stockholder of record at the time of giving of the notice provided for in Neoleukin's bylaws, who is entitled to vote at the meeting and who complies with the notice and other procedures set forth in Neoleukin's bylaws. The foregoing clause (iii) is the exclusive means for a Neoleukin stockholder to make director nominations or propose other business (other than matters included in Neoleukin's proxy materials pursuant to Rule 14a-8 under the Exchange Act) at an annual meeting of Neoleukin stockholders.	Neither Neurogene's charter nor Neurogene's bylaws contain advance notice requirements for stockholder proposals.
Amendment of Certificate of Incorporation	
Notwithstanding any other provisions of Neoleukin's charter or any provision of law that might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of the holders of any particular class or series of Neoleukin required by law or by Neoleukin's charter or any certificate of designation, the affirmative vote of the holders of at least 66 2/3% of the voting power of all of the then outstanding shares of Neoleukin's capital stock entitled to vote generally in	Neurogene's charter may be amended pursuant to Section 242 of the DGCL; provided that (i) at any time when at least 7,902,699 shares of Neurogene preferred stock are outstanding, the affirmative vote of the Requisite Holders (as defined in Neurogene's charter), voting together as a single class on an as-converted basis, is required to amend, alter or repeal any provision of Neurogene's charter and (ii) at any time when shares of an existing series of

Neoleukin	Neurogene
the election of directors, voting together as a single class, is required to alter, amend or repeal certain provisions of Neoleukin's charter, including provisions relating to the Neoleukin board of directors, stockholder action by written consent, the power of the Neoleukin board of directors to adopt and amend Neoleukin's bylaws, the limitation on personal liability and the indemnification of Neoleukin directors, exclusive forum clause, and the amendment of Neoleukin's charter. The affirmative vote of the holders of at least a majority of the voting power of all of the then outstanding shares of Neoleukin's capital stock entitled to vote generally in the election of directors, voting together as a single class, generally is required to alter, amend or repeal other provisions of Neoleukin's charter.	Neurogene preferred stock are outstanding, the affirmative vote of holders of a majority of the then outstanding shares of such series of Neurogene preferred stock, voting as a single class and on an as-converted basis, is required to (x) amend, alter or repeal any provision of Neurogene's charter in a manner that adversely affects the powers, preferences or rights of such series of Neurogene preferred stock in a manner that is disproportionate to the effect on all other series of Neurogene preferred stock or (y) increase or decrease the authorized number of shares of such series of Neurogene preferred stock.
Amendment of Bylaws	
Neoleukin's bylaws may be adopted, amended or repealed by the Neoleukin board of directors or Neoleukin stockholders. Any adoption, amendment or repeal of Neoleukin's bylaws by the Neoleukin board of directors requires the approval of a majority of the authorized number of Neoleukin directors. In addition to any vote of the holders of any class or series of Neoleukin's stock required by law or by Neoleukin's charter, any adoption, amendment or repeal of Neoleukin's bylaws by Neoleukin stockholders requires the affirmative vote of the holders of at least 66 2/3% of the voting power of all of the then-outstanding shares of Neoleukin's capital stock entitled to vote generally in the election of directors, voting together as a single class.	Neurogene's bylaws may be altered, amended or repealed, in whole or in part, or new bylaws may be adopted by the Neurogene board of directors or by the affirmative vote of the holders of a majority of the shares of Neurogene's capital stock issued and outstanding and entitled to vote at any annual or special meeting of stockholders; provided that (i) at any time when at least 7,902,699 shares of Neurogene preferred stock are outstanding, the affirmative vote of the Requisite Holders, voting together as a single class on an as-converted basis, is required to amend, alter or repeal any provision of Neurogene's bylaws and (ii) at any time when shares of an existing series of Neurogene preferred stock is outstanding, the affirmative vote of holders of a majority of the then outstanding shares of such series of Neurogene preferred stock, voting as a single class and on an as-converted basis, is required to amend, alter or repeal any provision of Neurogene's bylaws in a manner that adversely affects the powers, preferences or rights of such series of Neurogene preferred stock in a manner that is disproportionate to the effect on all other series of Neurogene preferred stock.
Limitation on Director Liability	
The liability of the Neoleukin directors to Neoleukin or its stockholders for monetary damages is eliminated to the fullest extent under applicable law. If applicable law is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director will be eliminated or limited to the fullest extent permitted by applicable law as so amended. Any repeal or modification of the	To the fullest extent permitted by law, a director or Neurogene will not be personally liable to Neurogene or its stockholders for monetary damages for breach of fiduciary duty as a director of Neurogene. If the DGCL or any other law of the State of Delaware is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of Neurogene

Neoleukin	Neurogene
foregoing provisions will only be prospective and will not affect the rights or protections or increase the liability of any director under such provisions in effect at the time of the alleged occurrence of any act or omission to act giving rise to liability. If Neoleukin stockholders approve Proposal No. 3, then the liability of certain Neoleukin officers to Neoleukin or its stockholders for monetary damages will be eliminated or limited to the fullest extent under applicable law, as the same may be amended from time to time (see page 202 for additional information).	will be eliminated or limited to the fullest extent permitted by the DGCL as so amended. Any repeal or modification of the foregoing provisions will not adversely affect any rights or protections of a director of Neurogene existing at the time of, or increase the liability of any director of Neurogene with respect to any acts or omissions to act of such director occurring prior to, such repeal or modification.
Indemnification	
To the fullest extent permitted by applicable law, Neoleukin is authorized to provide indemnification of (and advancement of expenses to) directors, officers and agents of Neoleukin (and any other persons to which applicable law permits Neoleukin to provide indemnification) through bylaw provisions, agreements with such agents or other persons, vote of stockholders or disinterested directors or otherwise in excess of the indemnification and advancement otherwise permitted by such applicable law. To the fullest extent permitted by the DGCL as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits Neoleukin to provide broader indemnification rights than such law permitted Neoleukin to provide prior to such amendment) and except in certain specified circumstances, Neoleukin is required under Neoleukin's bylaws to provide indemnification of (and advancement of expenses to) directors, officers and certain other agents of Neoleukin if they were or are party to, or threatened to be made a party to any threatened, pending or completed action, suit or proceeding by reason of the fact that such person is or was a director or officer or such other agents of Neoleukin. Any amendment, repeal or modification of the foregoing provisions will only be prospective and will not affect the rights or protections conferred on a person under such provisions in effect at the time of such amendment, repeal or modification.	To the fullest extent permitted by applicable law as the same presently exists or may hereafter be amended and except in certain specified circumstances, Neurogene is required under Neurogene's charter and Neurogene's bylaws to provide indemnification of (and advancement of expenses to) directors, officers and certain other agents of Neurogene if they were or are threatened to be made a party to or otherwise involved in any action, suit or proceeding by reason of the fact that such person is or was a director or officer or such other agents of Neoleukin. Any repeal or modification of the foregoing provisions will not adversely affect any rights or protections of a director of Neurogene existing at the time of, or increase the liability of any director of Neurogene with respect to any acts or omissions to act of such director occurring prior to, such repeal or modification.
Conversion Rights	
Neoleukin does not have any shares of preferred stock issued and outstanding.	Neurogene's charter provides that (a) holders of shares of Neurogene Class B Common Stock have the right to convert each share of Neurogene Class B Common Stock into one share of Neurogene Class A Common Stock at the holders' election in accordance with the terms of Neurogene's charter; and (b) holders of shares of Neurogene preferred stock have the right to at any time and from time to time

Neoleukin	Neurogene
	convert such shares into shares of Neurogene Class A Common Stock or into shares of Neurogene Class B Common Stock, in each case at a conversion rate in accordance with the terms of Neurogene's charter. In addition, upon either (i) the closing of the sale of shares of Neurogene common stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act at a price of at least $3.66 per share (subject to appropriate adjustment for any stock dividend, stock split, combination or other similar recapitalization with respect to the common stock) and resulting in at least $50 million of gross proceeds to Neurogene and in connection with such offering Neurogene common stock is listed for trading on the Nasdaq Global Market, the New York Stock Exchange or another exchange or marketplace approved by the Neurogene board of directors; or (ii) the date and time, or upon the occurrence of an event, specified by vote of the Requisite Holders, voting together as a single class and on an as-converted basis, then all outstanding shares of Neurogene preferred stock will automatically be converted into shares of Neurogene Class A Common Stock at the then effective conversion rate, provided that a holder of Neurogene preferred stock may elect to have all or a portion of its shares of Neurogene preferred stock automatically convert into shares of Neurogene Class B Common Stock at the then effective conversion rate, in each case in accordance with the terms of Neurogene's charter, and such shares may not be reissued by Neurogene.
	Right of First Refusal
Neoleukin does not have a right of first refusal in place.	Holders of Neurogene common stock wishing to transfer any shares thereof (other than shares of Neurogene common stock issued upon conversion of Neurogene preferred stock) must provide Neurogene with the right to purchase such shares in accordance with Neurogene's bylaws. In addition, certain stockholders party to the Neurogene ROFR Agreement wishing to transfer any shares of Neurogene's capital stock must first provide Neurogene with the right to purchase such shares. In such an event, if Neurogene does not elect to exercise its right of first refusal in full, certain stockholders party to the Neurogene ROFR Agreement have a secondary refusal right to purchase all or any portion of such shares of Neurogene's capital stock which are proposed for sale or transfer and not purchased by Neurogene pursuant to its right of first refusal.

Neoleukin	Neurogene
Right of Co-Sale	
Neoleukin does not have a right of co-sale in place.	Certain stockholders party to the Neurogene ROFR Agreement have a right of co-sale with respect to any capital stock of Neurogene proposed to be transferred or sold that is not either purchased by Neurogene by exercise of its right of first refusal (as further described above) or by any Neurogene investor by exercise of their secondary refusal right (as further described above), each pursuant to the Neurogene ROFR Agreement.
Preemptive Rights	
Neoleukin stockholders do not have preemptive rights. Thus, if additional shares of Neoleukin common stock are issued, the current holders of Neoleukin common stock will own a proportionately smaller interest in a larger number of outstanding shares of common stock to the extent that they do not participate in the additional issuance.	Pursuant to the Neurogene IRA, if Neurogene proposes to offer or sell certain new equity securities, Neurogene must first offer such securities to each Qualified Investor (as defined in the Neurogene IRA), who will then have a right to purchase securities in such new offering equal to the proportion of the ownership interest of such Qualified Investor prior to such offering.
Distributions to Stockholders	
Dividends upon Neoleukin's capital stock, subject to the provisions of Neoleukin's charter and applicable law, if any, may be declared by the Neoleukin board of directors pursuant to law at any regular or special meeting. Dividends may be paid in cash, in property, or in shares of capital stock, subject to the provisions of Neoleukin's charter and applicable law. The Neoleukin board of directors may fix a record date for the determination of holders of Neoleukin common stock entitled to receive payment of a dividend or distribution declared thereon, which record date may not precede the date upon which the resolution fixing the record date is adopted, and which record date may not be more than 60 days prior to the date fixed for the payment thereof.	Declaration of dividends upon Neurogene's capital stock are subject to applicable law, including the DGCL. The holders of Neurogene preferred stock are entitled to receive dividends, if any, at a set rate out of any assets legally available therefor prior and in preference to any declaration or payment of any dividend on Neurogene common stock. Such dividends payable to the holders of Neurogene preferred stock pursuant to Neurogene's charter are not cumulative and are payable when, as and if declared by the Neurogene board of directors. After payment of such dividends on Neurogene preferred stock, Neurogene may not declare, pay or set aside any dividends on shares of any other class or series of Neurogene's capital stock (other than dividends on shares of Neurogene common stock payable in shares of Neurogene common stock) unless the holders of each series of Neurogene preferred stock then outstanding first receive or simultaneously receive a dividend on each outstanding share of such series of Neurogene preferred stock in an amount calculated in accordance with the terms of Neurogene's charter. In addition, Neurogene may not declare, pay or set aside any dividends or distributions on shares of Neurogene Class A Common Stock or Class B Common Stock unless Neurogene declares, pays or sets aside the same dividend or distribution on each share of Neurogene Class B Common Stock or Class A Common Stock, respectively.

Neoleukin	Neurogene
Exclusive Forum	
Neoleukin's charter and Neoleukin's bylaws provide that unless Neoleukin consents in writing to the selection of an alternative forum, to the fullest extent permitted by law, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the United States District Court for the District of Delaware) shall be the sole and exclusive forum for: (a) any derivative action or proceeding brought in the name or right of Neoleukin or on behalf of Neoleukin, (b) any action or proceeding asserting a claim that is based upon a breach of a duty owed by a current or former director, officer, employee, agent or stockholder of Neoleukin to Neoleukin or Neoleukin's stockholders, (c) any action or proceeding arising or asserting a claim arising pursuant to any provision of the DGCL (or as to which the DGCL confers jurisdiction upon the Court of Chancery) or any provision of Neoleukin's charter, any designation relating to any outstanding to any series of Neoleukin preferred stock, or Neoleukin's bylaws, (d) any action to interpret, apply, enforce, or determine the validity of Neoleukin's charter or Neoleukin's bylaws, or (e) any action or proceeding asserting a claim governed by the internal affairs doctrine. In addition, Neoleukin's bylaws provide that unless Neoleukin consents in writing to the selection of an alternative forum, to the fullest extent permitted by law, the federal district courts of the United States shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act, including all causes of action asserted against any defendant named in such complaint.	Neurogene's charter provides that, unless Neurogene consents in writing to the selection of an alternative forum, the Court of Chancery in the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of Neurogene, (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer or other employee of Neurogene to Neurogene or Neurogene's stockholders, (iii) any action asserting a claim against Neurogene, its directors, officers or employees arising pursuant to any provision of the DGCL, Neurogene's charter or Neurogene's bylaws or (iv) any action asserting a claim against Neurogene, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction.
Registration Rights	
Under that certain Registration Rights Agreement, dated September 19, 2016, by and among Neoleukin and certain of its stockholders (the "Neoleukin IRA"), certain holders of Neoleukin's capital stock that are party to the Neoleukin IRA have certain registration rights, including the right to demand that Neoleukin file a registration statement, so called "demand" registration rights. The registration rights granted under the Neoleukin IRA will terminate upon the earlier to occur of (i) all of the shares of Neoleukin capital stock subject to the demand registration rights under the Neoleukin IRA (the "Neoleukin Registrable Securities") have been sold pursuant to an effective registration statement; (ii) the Neoleukin Registrable Securities have been sold pursuant to Rule 144 under the Securities Act (or other similar rule); (iii) the Neoleukin Registrable Securities	Under the Neurogene IRA, certain holders of Neurogene preferred stock that are party to the Neurogene IRA, have certain registration rights, including the right to demand that Neurogene file a registration statement, so called "demand" registration rights, or request that their shares be covered by a registration statement that Neurogene is otherwise filing, so-called "piggyback" registration rights. The registration rights granted under the Neurogene IRA will terminate upon the earlier to occur of: (a) the closing of a Deemed Liquidation Event, as such term is defined in Neurogene's charter; or (b) such time after consummation of Neurogene's initial public offering as Rule 144 under the Securities Act or another similar exemption under the Securities Act is available for the sale of shares of

Neoleukin	Neurogene
may be resold without limitations as to volume or manner of sale pursuant to Rule 144 under the Securities Act; or (iv) 10 years after the date of the Neoleukin IRA.	such holders of Neurogene preferred stock without limitation during a three-month period without registration.
Stock Transfer Restrictions Applicable to Stockholders	
Shares of Neoleukin are transferable in the manner prescribed by the DGCL.	Shares of Neurogene are transferable in the manner prescribed by the DGCL, subject to the restrictions under Neurogene's bylaws and the additional limits on certain holders of Neurogene capital stock party to the Neurogene ROFR Agreement and Neurogene IRA.
Stockholder Rights Plan	
In connection with Neoleukin's review of strategic alternatives, on March 31, 2023, the Neoleukin board of directors adopted a stockholder rights plan, or "poison pill," as amended on May 2, 2023, in order to protect the best interests of Neoleukin and its stockholders, to help ensure that all interested parties have the opportunity to participate fairly in the strategic review process to and provide the Neoleukin board of directors and stockholders time to make informed decisions. In general terms, for so long as the rights issued under the rights agreement are outstanding, the rights agreement prevents any person or group from acquiring a significant percentage of Neoleukin outstanding capital stock or attempting a hostile takeover of Neoleukin by significantly diluting the ownership percentage of such person or group. The rights issued under the rights agreement will expire at the close of business on March 30, 2024, unless previously redeemed or exchanged by Neoleukin.	Neurogene does not have a stockholder rights plan in place.

PRINCIPAL STOCKHOLDERS OF NEOLEUKIN

Except where specifically noted, the following information and all other information contained in this proxy statement/prospectus does not give effect to the proposed reverse stock split described in Proposal No. 2 of this proxy statement/prospectus.

The following table sets forth information, to the extent known by Neoleukin or ascertainable from public filings, with respect to the beneficial ownership of Neoleukin common stock as of August 1, 2023, by:

- each of Neoleukin's directors;
- each of Neoleukin's named executive officers;
- all of Neoleukin's directors and executive officers as a group; and
- each person, or group of affiliated persons, who is known by Neoleukin to beneficially own greater than 5.0% of Neoleukin's common stock.

The column entitled "Beneficial Ownership" is based on a total of 44,021,429 shares of Neoleukin's common stock outstanding as of August 1, 2023.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to Neoleukin's common stock. Shares of Neoleukin's common stock subject to options that are currently exercisable or exercisable within 60 days of August 1, 2023 are considered outstanding and beneficially owned by the person holding the options for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person. Except as otherwise noted, the persons and entities in this table have sole voting and investing power with respect to all of the shares of Neoleukin's common stock beneficially owned by them, subject to community property laws, where applicable.

	Beneficial Ownership	
Beneficial Owner	Number of Shares (#)	Percent of Total (%)
Named Executive Officers, Former Executive Officers and Directors:		
Jonathan G. Drachman[1]	4,581,394	9.90
Priti Patel[2]	143,544	*
Donna M. Cochener[3]	179,083	*
Sean Smith[4]	136,106	*
Martin Babler[5]	106,250	*
M. Cantey Boyd[6]	—	—
Erin Lavelle[7]	106,250	*
Sarah B. Noonberg[8]	103,250	*
Rohan Palekar[9]	47,916	*
Todd Simpson[10]	148,083	*
All executive officers and directors as a group (10 persons)[11]	826,938	1.84
5% Stockholders:		
Baker Bros. Advisors LP. and Affiliates[12]	10,043,077	19.99
Entities affiliated with Redmile Group, LLC[13]	2,912,228	6.62
Umut Ulge[14]	2,779,191	6.31
Daniel Adriano Silva Manzano[15]	2,558,335	5.81
Lynx1 Capital Advisers[16]	2,291,133	5.20

* Less than 1%.

(1) Consists of (a) 2,123,686 shares held directly, (b) 100,000 shares held of record by JGD Family Trust 2020, (c) 100,000 shares held of record by PLD Family Trust 2020, and (d) 2,257,708 shares issuable pursuant to stock options exercisable within 60 days of August 1, 2023.

(2) Consists of (a) 43,544 shares held directly and (b) 100,000 shares issuable pursuant to stock options exercisable within 60 days of August 1, 2023.

(3) Consists of (a) 2,000 shares held directly and (b) 177,083 shares issuable pursuant to stock options exercisable within 60 days of August 1, 2023.

(4) Consists of (a) 15,960 shares held directly, (b) 120,146 shares issuable pursuant to stock options exercisable within 60 days of August 1, 2023 and (c) 5,000 shares underlying an RSU that will vest within 60 days of August 1, 2023.

(5) Consists of 106,250 shares issuable pursuant to stock options exercisable within 60 days of August 1, 2023

(6) Ms. Boyd, an employee of Baker Bros. Advisors LP (the "Adviser"), serves on the Neoleukin board of directors as a representative of 667, L.P. ("667") and Baker Brothers Life Sciences, L.P. ("Life Sciences", and together with 667, the "Funds") and the Adviser may be deemed to beneficially own the securities received by Ms. Boyd as compensation for serving as a director. Pursuant to the policies of the Adviser, Ms. Boyd does not have any right to the pecuniary interest in securities received as compensation for serving as a director and the Funds are entitled to an indirect proportionate pecuniary interest in such securities.

(7) Consists of 106,250 shares issuable pursuant to stock options exercisable within 60 days of August 1, 2023.

(8) Consists of 103,250 shares issuable pursuant to stock options exercisable within 60 days of August 1, 2023.

(9) Consists of 47,916 shares issuable pursuant to stock options exercisable within 60 days of August 1, 2023.

(10) Consists of 148,083 shares issuable pursuant to stock options exercisable within 60 days of August 1, 2023.

(11) Consists of (a) 17,960 shares held directly, (b) 808,978 shares issuable pursuant to stock options exercisable within 60 days of August 1, 2023 and (c) 5,000 shares underlying an RSU that will vest within 60 days of August 1, 2023.

(12) Based on information provided in a Schedule 13D/A and Form 4 filed with the SEC on July 19, 2023 and, with respect to certain securities, Neoleukin's records. The Schedule 13D/A was filed jointly by the Baker Bros. Advisors LP (the "Adviser"), Baker Bros. Advisors (GP) LLC (the "Adviser GP"), Felix J. Baker, and Julian C. Baker, with respect to shares held by the Funds (defined below), Felix J. Baker and Julian C. Baker, and certain stock options granted to a member of the Neoleukin board of directors. Current beneficial ownership of the Adviser, the Adviser GP, and Messrs. Baker consists of (i) 638,355 shares of common stock issuable upon the exercise of pre-funded warrants held by 667, L.P. ("667"), (ii) 5,474,647 shares of common stock issuable upon the exercise of pre-funded warrants held by Baker Brothers Life Sciences, L.P. ("Life Sciences," and together with 667, the "Funds") and (iii) 103,250 shares of common stock issuable upon exercise of stock options held by M. Cantey Boyd exercisable within 60 days of August 1, 2023. In addition, Felix J. Baker and Julian C. Baker each directly hold 2,260 shares of common stock. Following notice provided to Neoleukin on July 17, 2023, as of 60 days after August 1, 2023, the pre-funded warrants will be exercisable only to the extent that after giving effect to such exercise the holders thereof and their affiliates would beneficially own no more than 19.99% of Neoleukin outstanding common stock (the "Maximum Percentage"). Pursuant to the terms of the warrants, the Funds may from time to time provide written notice to Neoleukin, to increase or decrease the Maximum Percentage applicable to that Fund to any other percentage not in excess of 19.99%. Any such change will not be effective until the 61st day after such notice is delivered to us. As a result of this restriction, the number of shares of common stock that may be issued upon exercise of the pre-funded warrants by the above holders may change depending upon changes in the outstanding shares of common stock. Without giving effect to the above beneficial ownership limitation, the pre-funded warrants that 667 holds would be exercisable for an aggregate of 1,199,122 shares of common stock and the pre-funded warrants that Life Sciences holds would be exercisable for an aggregate of 10,283,888 shares of common stock. Pursuant to management agreements, as amended, among the Adviser, the Funds and their respective general partners, the Funds respective general partners relinquished to the Adviser all discretion and authority with respect to the investment and voting power of

the securities held by the Funds, and thus the Adviser has complete and unlimited discretion and authority with respect to the Funds' investments and voting power over investments. The Adviser GP, Felix J. Baker and Julian C. Baker, as managing members of the Adviser GP, and the Adviser may be deemed to be beneficial owners of securities of Neoleukin directly held by the Funds. M. Cantey Boyd, an employee of the Adviser, serves on the Neoleukin board of directors as a representative of the Funds and the Adviser may be deemed to beneficially own the securities received by Ms. Boyd as compensation for serving as a director. Pursuant to the policies of the Adviser, Ms. Boyd does not have any right to the pecuniary interest in securities received as compensation for serving as a director and the Funds are entitled to an indirect proportionate pecuniary interest in such securities. The address of the foregoing entities and persons is 860 Washington Street, 3rd Floor, New York, New York 10014.

(13) Based on information provided in a Schedule 13G/A filed with the SEC on July 27, 2023 and, with respect to certain securities, Neoleukin's records. The address of Redmile Group, LLC is One Letterman Drive, Building D, Suite D3-300, the Presidio of San Francisco, San Francisco, California 94129.

(14) Based solely on information provided in a Schedule 13G/A filed on February 11, 2022 and certain company records. This holder did not file a schedule 13G in 2023. The most recent address was listed as 188 East Blaine Street, Suite 450, Seattle, Washington 98102.

(15) Based solely on information provided in a Schedule 13G/A filed on February 11, 2022 and certain company records. This holder did not file a schedule 13G in 2023. The most recent address was listed as 4000 Mason Road, Fluke Hall 300 or 304, Seattle, WA 98105.

(16) Based solely on information provided in a Schedule 13G filed with the SEC on December 30, 2022. The address of Lynx1 Capital Management LP is 151 Calle de San Francisco, Suite 200, PMB 1237, San Juan, PR 00901-1607.

PRINCIPAL STOCKHOLDERS OF NEUROGENE

The following table sets forth certain information known to Neurogene regarding beneficial ownership of Neurogene capital stock on a converted basis as of August 1, 2023, for:

- each person or group of affiliated persons, who is known by Neurogene to be the beneficial owner of more than 5% of Neurogene capital stock;
- each of Neurogene's directors;
- each of Neurogene's named executive officers; and
- all of Neurogene's directors and executive officers and directors as a group.

Beneficial ownership is determined in accordance with the rules of the SEC and thus represents voting or investment power with respect to Neurogene's securities. Under such rules, beneficial ownership includes any shares over which the individual has sole or shared voting power or investment power as well as any shares that the individual has the right to acquire within 60 days of August 1, 2023. Shares of Neurogene common stock that an individual has the right to acquire within 60 days of August 1, 2023 are deemed to be outstanding and beneficially owned by the individual for the purpose of computing the percentage ownership of that individual, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. To Neurogene's knowledge and subject to applicable community property rules, and except as otherwise indicated below, the persons and entities named in the table have sole voting and sole investment power with respect to all shares beneficially owned. The percentage of beneficial ownership shown prior to the merger and Neurogene pre-closing financing in the table below is based on 112,182,844 shares of Neurogene common stock deemed to be outstanding as of August 1, 2023, assuming the conversion of all outstanding shares of Neurogene preferred stock into shares of Neurogene common stock. The following table does not reflect any shares of Neurogene common stock that such holders have agreed to purchase in the Neurogene pre-closing financing.

Unless otherwise indicated, the address for each beneficial owner is c/o Neurogene Inc., 535 W 24th Street, 5th Floor New York, NY 10011.

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
Greater than 5% stockholders:		
Entities affiliated with Baker Brothers Investments(1)	21,443,956	19.1%
Entities affiliated with EcoR1 Capital Fund, L.P.(2)	14,487,227	12.9%
Samsara BioCapital, L.P.(3)	11,752,192	10.5%
Entities affiliated with Redmile Biopharma Investments I, L.P.(4)	9,840,831	8.8%
Entities affiliated with Cormorant Asset Management, LLC(5)	8,229,125	7.3%
Entities affiliated with Janus Capital Management LLC(6)	6,967,212	6.2%
Entities affiliated with BlackRock Capital Management, Inc.(7)	6,147,540	5.5%
Named Executive Officers and Directors:		
Rachel McMinn(8)	15,575,317	13.8%
Christine Mikail(9)	1,010,582	*%
Stuart Cobb(10)	499,033	*%
Robert Baffi(11)	120,000	*%
Stephen Biggar	—	—
Cory Freedland	—	—
Srdjan Stankovic(12)	120,000	*%
Caroline Stout	—	—
All current executive officers and directors as a group (8 persons)	17,324,932	15.4%

* Less than 1%.

(1) Consists of (i) 2,660,355 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-2 Preferred Stock held by Baker Brothers Life Sciences, L.P. (“Life Sciences”), (ii) 3,723,889 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-1 Preferred Stock held by Life Sciences, (iii) 13,380,599 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Life Sciences, (iv) 246,899 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-2 Preferred Stock held by 667, L.P. (“667” and together with Life Sciences, the “Baker Funds”), (v) 345,601 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-1 Preferred Stock held by 667, and (vi) 1,086,613 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by 667. Baker Bros. Advisors LP (“BBA”) is the management company and investment adviser to the Baker Funds and has the sole voting and investment power with respect to the shares held by the Baker Funds. Baker Bros. Advisors (GP) LLC (“BBA-GP”) is the sole general partner of BBA. The managing members of BBA-GP are Julian C. Baker and Felix J. Baker. Julian C. Baker and Felix J. Baker disclaim beneficial ownership of all shares except to the extent of their pecuniary interest therein. The address for the Baker Funds is 860 Washington St. 3rd Fl., New York, NY 10014.

(2) Consists of (i) 1,583,352 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-2 Preferred Stock held by EcoR1 Capital Fund Qualified, L.P. (“Qualified Fund”), (ii) 2,216,123 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-1 Preferred Stock held by Qualified Fund, (iii) 7,815,564 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Qualified Fund, (iv) 354,817 shares of Neurogene common stock issuable

upon conversion of Neurogene Series A-2 Preferred Stock held by EcoR1 Capital Fund, L.P. ("Capital Fund"), (v) 496,871 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-1 Preferred Stock held by Capital Fund, (vi) 1,032,917 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Capital Fund, and (vii) 987,583 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by EcoR1 Venture Opportunity Fund, L.P. ("Opportunity Fund"). EcoR1 Capital, LLC ("EcoR1") is the general partner of Qualified Fund and Capital Fund, and the investment adviser to Opportunity Fund. Biotech Opportunity GP, LLC is the general partner of Opportunity Fund. Oleg Nodelman is the control person of EcoR1 and Biotech Opportunity GP, LLC and may be deemed to share dispositive voting power over the shares held by Qualified Fund, Capital Fund and Opportunity Fund. Mr. Nodelman, EcoR1 and Biotech Opportunity GP, LLC each disclaim beneficial ownership of all shares except to the extent of their pecuniary interest. The address of the above person and entities is 357 Tehama Street #3, San Francisco, CA 94103.

(3) Consists of (i) 2,335,494 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-2 Preferred Stock, (ii) 3,269,158 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-1 Preferred Stock, and (iii) 6,147,540 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock. These shares are held by Samsara BioCapital, L.P. ("Samsara LP"). Samsara BioCapital GP, LLC ("Samsara GP") is the sole general partner of Samsara LP and may be deemed to have voting and investment power over the securities held by Samsara LP. Dr. Srinivas Akkaraju is a managing member of Samsara GP and may be deemed to have voting and dispositive power over the securities held by Samsara LP. Dr. Akkaraju disclaims beneficial ownership of the reported securities except to the extent of his pecuniary interest therein.

(4) Consists of (i) 969,085 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-2 Preferred Stock held by Redmile Biopharma Investments I, L.P. ("Redmile Biopharma I"), (ii) 1,356,498 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-1 Preferred Stock held by Redmile Biopharma I, (iii) 5,327,868 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Redmile Biopharma I, (iv) 484,452 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-2 Preferred Stock held by RAF, L.P. ("RAF" and, together with Redmile Biopharma I, the "Redmile Funds"), (v) 678,248 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-1 Preferred Stock held by RAF, and (vi) 1,024,590 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by RAF. Redmile Group, LLC ("Redmile") is the investment manager/adviser to the Redmile Funds, and, in such capacity, exercises voting and investment power over all of the shares held by the Redmile Funds and may be deemed to be the beneficial owner of these shares. Jeremy C. Green serves as the managing member of Redmile and also may be deemed to be the beneficial owner of these shares. Redmile and Mr. Green each disclaim beneficial ownership of these shares, except to the extent of its or his pecuniary interest in such shares, if any. The address of the Redmile Funds is c/o Redmile Group, LLC, One Letterman Drive, Building D, Suite D3-300, San Francisco, CA 94129.

(5) Consists of (i) 286,539 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-2 Preferred Stock held by Cormorant Global Healthcare Master Fund, LP ("Cormorant Master Fund"), (ii) 401,089 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-1 Preferred Stock held by Cormorant Master Fund, (iii) 582,106 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Cormorant Master Fund, (iv) 1,236,862 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-2 Preferred Stock held by Cormorant Private Healthcare Fund II, LP ("Cormorant Fund II"), (v) 1,731,324 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-1 Preferred Stock held by Cormorant Fund II, (vi) 3,902,335 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Cormorant Private Healthcare Fund III, LP ("Cormorant Fund III"), (vii) 27,134 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-2 Preferred Stock held by CRMA SPV, LP ("CRMA" and together with Cormorant Master Fund, Cormorant Fund II and Cormorant Fund III, the "Cormorant Funds"), (viii) 37,982 shares of Neurogene common stock issuable

upon conversion of Neurogene Series A-1 Preferred Stock held by CRMA, and (ix) 23,754 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by CRMA.

Cormorant Global Healthcare GP, LLC ("Global GP"), Cormorant Private Healthcare GP II, LLC ("Private GP II") and Cormorant Private Healthcare GP III, LLC ("Private GP III") serve as the general partners of Cormorant Master Fund, Cormorant Fund II and Cormorant Fund III, respectively. Cormorant Asset Management, LP ("Asset Management") serves as the investment manager to each of the Cormorant Funds. Bihua Chen serves as the managing member of Global GP, Private GP II and Private GP III. Cormorant Asset Management GP, LLC ("Asset Management GP") serves as the general partner of Asset Management, and Ms. Chen serves as the managing member of Asset Management GP. Ms. Chen may be deemed to share the power to direct the disposition and vote of the shares held by the Cormorant Funds. Each of Global GP, Private GP, Asset Management, Asset Management GP and Ms. Chen disclaims beneficial ownership of such shares except to the extent of any pecuniary interest therein. The address of the Cormorant Funds, Global GP, Private GP, Asset Management and Ms. Chen is 200 Clarendon Street, 52nd Floor, Boston, MA 02116.

(6) Consists of (i) 1,645,611 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Janus Henderson Biotech Innovation Master Fund Limited ("Janus Innovation Master Fund"), (ii) 2,407,138 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Janus Henderson Capital Funds PLC, on behalf of its series Janus Henderson Global Life Sciences Fund ("Janus Capital Funds"), (iii) 2,823,044 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Janus Henderson Global Life Sciences Fund ("Janus Global Life Sciences"), and (iv) 91,419 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Janus Henderson Horizon Fund – Biotechnology Fund ("Janus Biotechnology").

Janus Henderson Investors US LLC ("Janus"), which acts as investment adviser for Janus Innovation Master Fund, has the ability to make decisions with respect to the voting and disposition of the shares held by Janus Innovation Master Fund subject to the oversight of the board of trustees (or similar entity) of Janus Innovation Master Fund. Andrew Acker, Daniel Lyons and Agustin Mohedas are portfolio managers of Janus Innovation Master Fund and accordingly may be deemed to have voting power and dispositive power with respect to shares held by Janus Innovation Master Fund.

Janus Henderson Investors International Limited and Janus, which act as investment advisers for Janus Capital Funds, have the ability to make decisions with respect to the voting and disposition of the shares held by Janus Capital Funds subject to the oversight of the board of trustees (or similar entity) of Janus Capital Funds. Andrew Acker and Daniel Lyons are portfolio managers of Janus Capital Funds and accordingly may be deemed to have voting and dispositive power with respect to shares held by Janus Capital Funds.

Janus, which acts as investment adviser for Janus Global Life Sciences, has the ability to make decisions with respect to the voting and disposition of the shares held by Janus Global Life Sciences subject to the oversight of the board of trustees (or similar entity) of Janus Global Life Sciences. Andrew Acker and Daniel Lyons are portfolio managers of Janus Global Life Sciences and accordingly may be deemed to have voting and dispositive power with respect to shares held by Janus Global Life Sciences.

Janus Henderson Investors UK Limited and Janus, which act as investment advisers for Janus Biotechnology, have the ability to make decisions with respect to the voting and disposition of the shares held by Janus Biotechnology subject to the oversight of the board of trustees (or similar entity) of Janus Biotechnology. Andrew Acker, Daniel Lyons and Agustin Mohedas are portfolio managers of Janus Biotechnology and accordingly may be deemed to beneficially own the securities owned by Janus Biotechnology.

The address for each of the foregoing entities is c/o Janus Henderson Investors US LLC, 151 Detroit Street, Denver, CO 80206.

(7) Consists of 36,850 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Blackrock Health Sciences Master Unit Trust, (ii) 2,090,000 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Blackrock Health Sciences Opportunities Portfolio, a Series of Blackrock Funds, (iii) 106,790 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by Blackrock Health Sciences Trust, and (iv) 3,913,900 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock held by BlackRock Health Sciences Term Trust. The registered holders of the referenced shares are funds and accounts under management by subsidiaries of BlackRock, Inc. BlackRock, Inc. is the ultimate parent holding company of such subsidiaries. On behalf of such subsidiaries, the applicable portfolio managers, as managing directors (or in other capacities) of such entities, and/or the applicable investment committee members of such funds and accounts, have voting and investment power over the shares held by the funds and accounts which are the registered holders of the referenced shares. Such portfolio managers and/or investment committee members expressly disclaim beneficial ownership of all shares held by such funds and accounts. The address of such funds and accounts, such subsidiaries and such portfolio managers and/or investment committee members is 50 Hudson Yard, New York, New York 10055 and 60 State Street, 19th/20th Floor, Boston, Massachusetts 02109.

(8) Includes of (i) options to purchase 277,728 shares of Neurogene common stock that are exercisable within 60 days of the date of this table, (ii) 2,912,312 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-2 Preferred Stock, (iii) 4,076,571 shares of Neurogene common stock issuable upon conversion of Neurogene Series A-1 Preferred Stock, and (iv) 3,852,457 shares of Neurogene common stock issuable upon conversion of Series B Preferred Stock.

(9) Includes (i) options to purchase 747,708 shares of Neurogene common stock that are exercisable within 60 days of the date of this table, and (ii) 102,458 shares of Neurogene common stock issuable upon conversion of Neurogene Series B Preferred Stock.

(10) Consists of options to purchase 499,033 shares of Neurogene common stock that are exercisable within 60 days of the date of this table.

(11) Consists of options to purchase 120,000 shares of Neurogene common stock that are exercisable within 60 days of the date of this table.

(12) Consists of options to purchase 120,000 shares of Neurogene common stock that are exercisable within 60 days of the date of this table.

PRINCIPAL STOCKHOLDERS OF THE COMBINED COMPANY

Except where specifically noted, the following information and all other information contained in this proxy statement/prospectus does not give effect to the proposed reverse stock split described in Proposal No. 2 of this proxy statement/prospectus.

The following table sets forth certain information regarding beneficial ownership of the combined company's common stock immediately after consummation of the merger, assuming the consummation of the merger occurred on , 2023 for: each stockholder expected by Neoleukin and Neurogene to become the beneficial owner of more than 5% of the combined company's outstanding common stock, each person expected to be a named executive officer of the combined company, each person expected to be a director of the combined company, and all of the combined company's expected directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Under those rules, beneficial ownership includes any shares as to which the individual or entity has sole or shared voting power or investment power with respect to the securities as well as any shares of common stock that the individual or entity has the right to acquire within 60 days of , 2023 upon the exercise of stock options or other rights. These shares are deemed to be outstanding and beneficially owned by the person holding those options for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Except as noted by footnote, and subject to community property laws where applicable, Neoleukin and Neurogene believe, based on the information provided to them, that the persons and entities named in the table below have sole voting and investment power with respect to all common stock shown as beneficially owned by them.

The table lists applicable percentage ownership based on shares of common stock expected to be outstanding upon consummation of the merger, after giving effect to the Neurogene pre-closing financing and prior to giving effect to the anticipated Neoleukin reverse stock split. The number of shares beneficially owned includes shares of common stock that each person has the right to acquire within 60 days, including upon the exercise of stock options and the vesting of RSUs. These stock options and RSUs shall be deemed to be outstanding for the purpose of computing the percentage of outstanding shares of the combined company's common stock expected to be owned by such person but shall not be deemed to be outstanding for the purpose of computing the percentage of outstanding shares of the combined organization's common stock expected to be owned by any other person.

Immediately after the merger, using the exchange ratio described in more detail in the section entitled "*The Merger Agreement—Exchange Ratio*," on a pro forma basis and based upon the number of shares of Neoleukin common stock expected to be issued in the merger, pre-merger Neurogene securityholders (including investors in the pre-closing financing transaction) will own approximately 84% of the combined company and pre-merger Neoleukin securityholders will own approximately 16% of the combined company, in each case, on an as-converted basis to reflect the exercise of any pre-funded warrants. Of the 84% of the combined company expected to be owned by the pre-merger Neurogene securityholders, approximately 57% of such ownership is allocated to securities of Neurogene outstanding prior to the pre-closing financing and approximately 27% is allocated to shares of Neurogene common stock and Neurogene pre-funded warrants issued in the Neurogene pre-closing financing. All such ownership percentages are subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being not less than the Target Parent Net Cash (as defined in the Merger Agreement) amount and the aggregate proceeds of the Neurogene pre-closing financing being $95.0 million, in each case as described in more detail in the section entitled "*The Merger Agreement—Exchange Ratio*." The foregoing percentages were calculated using the TSM. The table below assumes that, based on Neoleukin's and Neurogene's capitalization as of July 17, 2023, the date the Merger Agreement was executed, the exchange ratio is estimated to be equal to approximately 1.7378x shares of Neoleukin common stock, prior to giving effect to the anticipated Neoleukin reverse stock split. The estimated exchange ratio was derived on a

fully-diluted basis as of July 17, 2023, using a stipulated value of Neurogene of approximately $295.0 million (including the Neurogene pre-closing financing) and of Neoleukin of approximately $55.6 million.

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Outstanding Beneficially Owned
Named Executive Officers and Directors:		

* Less than 1%.

LEGAL MATTERS

Fenwick & West LLP will pass upon the validity of Neoleukin's common stock offered by this proxy statement/prospectus.

EXPERTS

The financial statements of Neoleukin Therapeutics, Inc. as of December 31, 2022, and 2021, and for each of the two years in the period ended December 31, 2022, included in this proxy statement/prospectus, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are included in reliance upon the report of such firm given their authority as experts in accounting and auditing.

The financial statements of Neurogene Inc. at December 31, 2022 and 2021, and for each of the two years in the period ended December 31, 2022, included in the proxy statement/prospectus of Neoleukin Therapeutics, Inc., which is referred to and made a part of this proxy statement/prospectus, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about Neurogene Inc.'s ability to continue as a going concern as described in Note 2 to the financial statements) appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

Neoleukin is subject to the informational requirements of the Exchange Act and in accordance therewith, files annual, quarterly and current reports, proxy statements and other information with the SEC electronically, and the SEC maintains a website that contains Neoleukin's filings as well as reports, proxy and information statements, and other information issuers file electronically with the SEC at *www.sec.gov*.

Neoleukin also makes available free of charge on or through its website at *www.neoleukin.com*, its Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after Neoleukin electronically files such material with or otherwise furnishes it to the SEC. The website addresses for the SEC and Neoleukin are inactive textual references and except as specifically incorporated by reference into this proxy statement/prospectus, information on those websites is not part of this proxy statement/prospectus.

Neoleukin has filed with the SEC a registration statement on Form S-4, of which this proxy statement/prospectus is a part, under the Securities Act to register the shares of Neoleukin common stock to be issued to Neurogene stockholders in the merger. The registration statement, including the attached annexes, exhibits and schedules, contains additional relevant information about Neoleukin and Neoleukin common stock. This proxy statement/prospectus does not contain all of the information set forth in the registration statement because certain parts of the registration statement are omitted in accordance with the rules and regulations of the SEC.

Neoleukin has supplied all information contained in this proxy statement/prospectus relating to Neoleukin and Neurogene has supplied all information contained in this proxy statement/prospectus relating to Neurogene.

If you would like to request documents from Neoleukin or Neurogene, please send a request in writing or by telephone to either Neoleukin or Neurogene at the following addresses:

Neoleukin Therapeutics, Inc.
188 East Blaine Street, Suite 450
Seattle, Washington 98102
Tel: (866) 245-0312
Email: investors@neoleukin.com

Neurogene Inc.
535 W 24th Street, 5th Floor
New York, NY 10011
Tel: (855) 505-3568
Email: info@neurogene.com

If you are a Neoleukin stockholder and would like additional copies, without charge, of this proxy statement/prospectus or if you have questions about the merger, including the procedures for voting your shares, you should contact Neoleukin's proxy solicitor, Morrow Sodali at the following address, telephone numbers and email address:

Morrow Sodali
333 Ludlow Street, 5th Floor
South Tower
Stamford, CT 06902

Shareholders may call (800) 662-5200
Banks and Brokers may call collect: (203) 658-9400

Email: NLTX@info.morrowsodali.com

STOCKHOLDER PROPOSALS

A stockholder who would like to have a proposal considered for inclusion in Neoleukin's proxy statement for the 2024 annual meeting of stockholders must submit the proposal in accordance with the procedures outlined in Rule 14a-8 of the Exchange Act so that it is received by Neoleukin no later than December 29, 2023. However, if the date of the 2024 annual meeting of stockholders is changed by more than 30 days from the date of the previous year's meeting, then the deadline is a reasonable time before Neoleukin begins to print and send its proxy statement for the 2024 Annual Meeting of Stockholders. SEC rules set standards for eligibility and specify the types of stockholder proposals that may be excluded from a proxy statement. Stockholder proposals should be addressed to Neoleukin Therapeutics, Inc., 188 East Blaine Street, Suite 450, Seattle, Washington 98102, Telephone: (866) 245-0312, Email: investors@neoleukin.com.

If a stockholder wishes to propose a nomination of persons for election to Neoleukin's board of directors or present a proposal of other business at an annual meeting but does not wish to have the proposal of the business considered for inclusion in Neoleukin's proxy statement and proxy card pursuant to Rule 14a-8 of the Exchange Act, Neoleukin's bylaws establish an advance notice procedure for such nominations and proposals. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of Neoleukin's board of directors or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely notice in proper form to Neoleukin's corporate secretary of the stockholder's intention to bring such business before the meeting.

The required notice must be in writing and received by Neoleukin's corporate secretary at its principal executive offices not later than the close of business (5:00 p.m. Eastern Time) on the 75th day nor earlier than the close of business on the 105th day prior to the first anniversary of the preceding year's annual meeting. However, in the event that the date of the annual meeting is advanced by more than 30 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received no earlier than the close of business on the 105th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th day prior to such annual meeting and (B) the tenth day following the day on which public disclosure of the date of such annual meeting was first made. For director nominations and stockholder proposals to be brought before the 2024 annual meeting of stockholders, the required notice must be received by Neoleukin's corporate secretary at its principal executive offices no earlier than February 24, 2024 and no later than March 25, 2024. Stockholder proposals and the required notice should be addressed to Neoleukin Therapeutics, Inc., 188 East Blaine Street, Suite 450, Seattle, Washington 98102, Telephone: (866) 245-0312, Email: investors@neoleukin.com. Any such director nomination or stockholder proposal must be a proper matter for stockholder action and must comply with the terms and conditions set forth in Neoleukin's bylaws (which includes the timing and information required under Rule 14a-19 of the Exchange Act).

The proxy to be solicited on behalf of Neoleukin's board of directors for its 2024 annual meeting of stockholders may confer discretionary authority to vote on any such proposal considered to have been received on a non-timely basis or have failed to satisfy the requirements of Rule 14a-4 of the Exchange Act that nonetheless properly comes before Neoleukin's 2024 annual meeting of stockholders. Stockholders are also advised to review Neoleukin's bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations. Neoleukin reserves the right to reject, rule out of order or take other appropriate action with respect to any nomination or proposal that does not comply with these and other applicable requirements.

Communication with the Directors of Neoleukin

Pursuant to Neoleukin's Corporate Governance Guidelines, stockholders that wish to communicate with Neoleukin's board of directors should send such correspondence to the attention of Neoleukin's corporate secretary, at 188 East Blaine Street, Suite 450, Seattle, WA 98102 or by email at corporatesecretary@neoleukin.com. Neoleukin's corporate secretary will forward the communication to

Neoleukin's board of directors unless it is primarily commercial in nature or related to an improper or irrelevant topic. Neoleukin does not have a formal process by which stockholders may communicate directly with members of the Neoleukin board of directors. Neoleukin believes that an informal process, in which any communication sent to the Neoleukin board of directors in care of the Secretary is generally to be forwarded to the Neoleukin board of directors, serves the needs of the Neoleukin board of directors and the Neoleukin stockholders. You may submit your concern anonymously or confidentially by postal mail. You may also indicate whether you are a stockholder, customer, supplier, or other interested party.

Householding of Proxy Statement/Prospectus

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for special meeting materials with respect to two or more stockholders sharing the same address by delivering a single copy of other special meeting materials addressed to those stockholders. This process, which is commonly referred to as "householding," potentially means extra convenience for stockholders and cost savings for companies.

In connection with the Neoleukin special meeting, a number of brokers with account holders who are Neoleukin stockholders will be "householding" Neoleukin's proxy materials. A single set of proxy materials will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once the stockholder has received notice from his or her broker that the broker will be "householding" communications to the stockholder's address, "householding" will continue until the stockholder are notified otherwise or until the stockholder revokes his or her consent. If, at any time, the stockholder no longer wishes to participate in "householding" and would prefer to receive a separate set of proxy materials, please notify the broker or Neoleukin. Direct the written request to Neoleukin Therapeutics, Inc., 188 East Blaine Street, Suite 450, Seattle, Washington 98102, or call (866) 245-0312, and Neoleukin will promptly deliver the separate set of proxy materials to the stockholder. Stockholders who currently receive multiple copies of the proxy materials at their addresses and would like to request "householding" of their communications should contact their brokers.

NEOLEUKIN THERAPEUTICS, INC.
Index to Financial Statements

NEUROGENE INC.
Index to Financial Statements

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Neoleukin Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Neoleukin Therapeutics, Inc. (the "Company") as of December 31, 2022 and 2021, the related statements of operations and comprehensive income (loss), stockholders' equity, and cash flows, for each of the two years in the period ended December 31, 2022, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. We determined that there are no critical audit matters.

/s/ Deloitte & Touche LLP

Seattle, Washington
March 20, 2023

We have served as the Company's auditor since 2020.

NEOLEUKIN THERAPEUTICS, INC.
Balance Sheets
(in thousands, except share and per share amounts)

	December 31, 2022	December 31, 2021
Assets		
Current assets		
Cash and cash equivalents	$ 37,887	$ 142,467
Short-term investments	58,497	—
Other current assets	2,750	1,522
Total current assets	99,134	143,989
Property and equipment, net	6,163	6,452
Operating lease right-of-use asset	9,715	10,766
Intangible asset, net	—	128
Other non-current assets	936	1,928
Total assets	$ 115,948	$ 163,263
Liabilities		
Current liabilities		
Accounts payable and other liabilities	$ 9,547	$ 7,415
Operating lease liability	1,375	1,166
Finance lease liability	140	55
Total current liabilities	11,062	8,636
Non-current operating lease liability	10,322	11,696
Non-current finance lease liability	233	67
Total liabilities	21,617	20,399
Stockholders' equity		
Common stock, $0.000001 par value - authorized, 100,000,000 as of December 31, 2022 and December 31, 2021; issued and outstanding, 42,648,346 as of December 31, 2022 and 42,457,471 as of December 31, 2021.	—	—
Preferred stock, $0.000001 par value - authorized, 5,000,000 as of December 31, 2022 and December 31, 2021; issued and outstanding, 0 as of December 31, 2022 and December 31, 2021	—	—
Additional paid-in capital	545,407	536,362
Accumulated other comprehensive income (loss)	(21)	—
Accumulated deficit	(451,055)	(393,498)
Total stockholders' equity	94,331	142,864
Total liabilities and stockholders' equity	$ 115,948	$ 163,263

The accompanying notes form an integral part of these financial statements

NEOLEUKIN THERAPEUTICS, INC.
Statements of Operations and Comprehensive Income (Loss)
(in thousands, except share and per share amounts)

	Years Ended December 31,	
	2022	2021
Operating expenses		
Research and development	$ 41,129	$ 39,162
General and administrative	17,968	21,536
Total operating expenses	59,097	60,698
Loss from operations	(59,097)	(60,698)
Interest income	1,582	19
Other income (loss), net	(42)	(13)
Net loss	$ (57,557)	$ (60,692)
Comprehensive income (loss)		
Unrealized loss on available-for-sale securities	(21)	—
Comprehensive loss	$ (57,578)	$ (60,692)
Net loss per common stock - basic and diluted	$ (1.04)	$ (1.10)
Basic and diluted weighted average number of common stock outstanding	55,221,161	55,041,662

The accompanying notes form an integral part of these financial statements

NEOLEUKIN THERAPEUTICS, INC.
Statements of Cash Flows
(in thousands)

	Years Ended December 31,	
	2022	2021
Operating activities		
Net loss	$ (57,557)	$ (60,692)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	8,829	11,557
Depreciation and amortization	1,561	1,306
Amortization of operating lease right-of-use assets	1,051	971
Amortization and accretion of premiums/discounts on available-for-sale securities	(494)	—
Loss on disposal of property and equipment	118	—
Changes in operating assets and liabilities:		
Other current assets and non-current assets	(206)	129
Accounts payable and accrued liabilities	2,256	(142)
Operating lease liabilities	(1,165)	(687)
Net cash used in operating activities	(45,607)	(47,558)
Investing activities		
Purchases of property and equipment	(1,110)	(3,263)
Purchase of available-for-sale securities	(107,524)	—
Proceeds from maturities of available-for-sale securities	49,500	—
Net cash used in investing activities	(59,134)	(3,263)
Financing activities		
Proceeds from exercise of stock options	134	411
Payment on finance lease obligations	(55)	(51)
Proceeds from issuance of common stock under Employee Stock Purchase Plan	82	372
Net cash provided by financing activities	161	732
Net change in cash, cash equivalents, and restricted cash during the year	(104,580)	(50,089)
Cash, cash equivalents, and restricted cash at beginning of year	143,345	193,434
Cash, cash equivalents, and restricted cash at end of year	$ 38,765	$143,345
Supplemental disclosure:		
Operating lease liabilities arising from obtaining right-of-use asset	$ —	$ 1,584
Supplemental disclosure of non-cash investing and financing activities:		
Finance lease liabilities arising from obtaining right-of-use asset	$ 307	$ —
Purchase of property and equipment unpaid at period end	$ 283	$ 412

The accompanying notes form an integral part of these financial statements

NEOLEUKIN THERAPEUTICS, INC.
Statements of Stockholders' Equity
(in thousands, except share amounts)

	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Number	Amount	Amount	Amount	Amount	Amount
Balances, December 31, 2020	42,196,296	$ —	$524,022	$ (332,806)	$ —	$ 191,216
Common stock issued upon exercises of stock options	124,928	—	411	—	—	411
Common stock issued upon vesting of restricted stock units	84,500	—	—	—	—	—
Issuance of common stock under Employee Stock Purchase Plan	51,747	—	372	—	—	372
Stock-based compensation	—	—	11,557	—	—	11,557
Net loss	—	—	—	(60,692)	—	(60,692)
Balances, December 31, 2021	42,457,471	$ —	$536,362	$ (393,498)	$ —	$ 142,864
Common stock issued upon exercises of stock options	36,500	—	134	—	—	134
Common stock issued upon vesting of restricted stock units	24,750	—	—	—	—	—
Issuance of common stock under Employee Stock Purchase Plan	129,625	—	82	—	—	82
Stock-based compensation	—	—	8,829	—	—	8,829
Unrealized gain (loss) on available-for-sale securities	—	—	—	—	(21)	(21)
Net loss	—	—	—	(57,557)	—	(57,557)
Balances, December 31, 2022	42,648,346	$ —	$545,407	$ (451,055)	$ (21)	$ 94,331

The accompanying notes form an integral part of these financial statements

NEOLEUKIN THERAPEUTICS, INC.
Notes to Financial Statements

1. Nature of operations

Neoleukin Therapeutics, Inc. ("Neoleukin" or the "Company") is a biopharmaceutical company creating next generation immunotherapies for cancer, inflammation, and autoimmunity using *de novo* protein design technology. Neoleukin uses sophisticated computational methods to design proteins that demonstrate specific pharmaceutical properties that provide potentially superior therapeutic benefit over native proteins.

2. Basis of presentation and summary of significant accounting policies

(a) Basis of presentation

The accompanying financial statements are presented in United States ("U.S.") dollars and have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP").

(b) Use of estimates and assumptions

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Significant areas requiring estimates include valuation and recognition of stock-based compensation, the incremental borrowing rate utilized in the measurement of operating and finance lease liabilities, estimated useful lives utilized in the amortization and depreciation of property and equipment, and pre-clinical, clinical, and other accruals. Actual results could differ from those estimates.

(c) Leases

At contract inception, the Company determines if the contract is or contains a lease. Lease liabilities are recognized on the lease commencement date based on the estimated present value of lease payments over the lease term. To determine the present value of the lease payments, the Company utilizes its estimated incremental borrowing rate based on information available at the lease commencement date as the interest rate implicit in the lease is typically not readily determinable. The related right-of-use assets are recorded net of any lease incentives received. Variable lease cost primarily includes building operating expenses as charged to the Company by its landlords and payments for lessor-owned assets that are not covered by a tenant improvement allowance.

The Company includes options to extend the lease in its lease liability and right-of-use asset when it is reasonably certain that it will exercise that option. None of the Company's options to extend the rental term of any of its existing leases were considered reasonably certain as of December 31, 2022.

For leases of office space, the Company has elected to not separate the lease components from the non-lease components.

For leases of office space with a lease term of 12 months or less and which do not include an option to purchase the underlying asset, the Company has elected to recognize the lease payments in the statement of operations on a straight-line basis over the lease term.

(d) Cash, cash equivalents, and restricted cash

The Company considers all highly liquid investments with an original contractual maturity or a remaining maturity of three months or less at the date of purchase to be cash equivalents. Cash equivalents consist of money market funds and U.S. treasury securities as of December 31, 2022 and of money market funds as of December 31, 2021.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash in the balance sheets that sum to the total of the same such amounts shown in the statements of cash flows (in thousands):

	December 31,	
	2022	2021
Cash and cash equivalents	$ 37,887	$ 142,467
Restricted cash	878	878
Total cash, cash equivalents, and restricted cash	$ 38,765	$ 143,345

Restricted cash, included in other non-current assets in the balance sheets, includes $0.9 million in cash deposits the Company maintains with its bank as collateral for the irrevocable letters of credits related to its lease obligations.

(e) Property and equipment

Property and equipment are recorded at cost and are amortized using the straight-line basis over a range of three to seven years. Expenditures for maintenance and repairs are expensed as incurred.

The Company reviews the carrying value of property and equipment for impairment whenever events and circumstances indicate that the carrying value of an asset may not be recoverable from the estimated future cash flows expected to result from its use and eventual disposition. In cases where undiscounted expected future cash flows are less than the carrying value, an impairment loss is recognized equal to an amount by which the carrying value exceeds the fair value of assets. The factors considered by management in performing this assessment include current operating results, trends and prospects, the manner in which the property is used, and the effects of obsolescence, demand, competition, and other economic factors. Based on management's assessment there were no indicators of impairment of property and equipment as of December 31, 2022 and 2021.

(f) Net loss per share

Basic net loss per share is calculated by dividing the net loss by the weighted average number of shares of common stock outstanding for the period, without consideration for common stock equivalents. Common stock equivalents are included in the calculation of diluted earnings per share only in periods of net income. Such common stock equivalents are excluded in the calculation of diluted net loss per share in periods of net loss as inclusion of such amounts would be anti-dilutive. Outstanding pre-funded warrants as of December 31, 2022 and 2021 of 12,663,010 are considered outstanding as of their issuance date and are included in the basic and diluted net loss per share calculation because they are fully vested and exercisable at any time for a nominal cash consideration.

(g) Intangible assets subject to amortization

Long-lived intangible assets are recorded at the acquired cost and amortized using the straight-line method over their estimated useful life.

The intangible asset is tested for impairment when events or changes in circumstances indicate that the carrying value of the asset may not be recoverable. The Company recognizes an impairment loss when carrying amount is not recoverable and the estimated fair value of the intangible asset is less than its carrying value. Based on management's assessment there were no indicators of impairment of intangible assets as of December 31, 2022 and 2021.

(h) Income taxes

The Company accounts for income taxes using an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the differences between events that have been recognized in the Company's

financial statements and the tax bases of assets and liabilities and tax carryforwards recognized at enacted tax rates. The measurement of deferred tax assets is reduced, if necessary, to the amount more likely than not to be realized by a valuation allowance.

(i) Research and development costs

Research and development costs are charged to expense as incurred and include items such as: employee related expenses, including salaries, stock-based compensation, and benefits, expenses incurred under agreements with contract research organizations that conduct clinical trials and preclinical studies, the cost of acquiring, developing, and manufacturing clinical trial materials, facilities, and other expenses, which include direct and allocated expenses for rent and maintenance of facilities, and other supplies and costs associated with clinical trials, preclinical activities, and regulatory operations.

Development costs are expensed in the period incurred unless management believes a development project meets generally accepted accounting criteria for deferral and amortization. No product development expenditures have been deferred to date. The Company records costs for certain development activities based on management's evaluation of the progress to completion of specific tasks or information provided to the Company by vendors on their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the financial statements as prepaid or accrued expense.

(j) Accounting for stock-based compensation

The Company has issued stock options and restricted stock units ("RSUs"). The Company measures the cost of services received in exchange for an award of equity instruments based on the grant-date fair value of the award. The cost of such award is recognized on a straight-line basis over the requisite service period, which is generally the vesting period. Awards subject to performance-based vesting requirements are expensed utilizing a graded vesting model if achievement of the performance criteria is determined to be probable. The Company accounts for forfeitures as they occur. The Company utilizes newly issued shares to satisfy option exercises, the vesting of RSUs, and Employee Stock Purchase Plan purchases.

The Company estimates the fair value of options using the Black-Scholes option pricing model on the grant date. This approximation uses assumptions regarding a number of inputs that requires management to make significant estimates and judgments. The expected term represents the period that the Company's stock-based awards are expected to be outstanding. As the Company does not have sufficient historical experience for determining the expected term of the stock option awards granted, the Company has based its expected term for awards issued to employees on the simplified method, which represents the average period from vesting to the expiration of the stock option. In addition, the Company does not have sufficient trading history for the Company's common stock, and therefore, the expected stock price volatility for the Company's common stock was estimated by taking the average historical price volatility for industry peers. The Company has never declared or paid any cash dividends to common stockholders and does not presently plan to pay cash dividends in the foreseeable future. Consequently, the Company used an expected dividend yield of zero. The risk-free interest rate was based on the yields of treasury securities with maturities similar to the expected term of the options for each option group.

The fair value of each RSU is measured using the closing price of the Company's common stock on the date of grant.

(k) Segment reporting

The Company operates in one segment, the research and development of *de novo* protein therapeutics using sophisticated computational algorithms and methods to address unmet medical needs. The Company's primary areas of focus are in oncology, inflammation, and autoimmunity. The Company's operations and its assets are held in the United States.

(l) Fair value of financial instruments

The carrying amounts of certain of the Company's financial instruments, including cash and cash equivalents, restricted cash, receivables, accounts payable, and other liabilities, approximate their fair values because of their nature and/or short maturities.

Certain of the Company's financial instruments are measured at fair value on a recurring basis. The Company determines the fair value of those financial instruments based upon the fair value hierarchy, which prioritizes valuation inputs based on the observable nature of those inputs. The three levels of the fair value hierarchy are as follows:

Level 1 - quoted prices (unadjusted) in active markets for identical assets or liabilities that can be accessed on the measurement date

Level 2 - quoted prices (in non-active markets or in active markets for similar assets or liabilities), observable inputs other than quoted prices and inputs that are not directly observable but are corroborated by observable market data

Level 3 - unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities

The following table presents information about the Company's financial instruments that are measured at fair value on a recurring basis:

	December 31, 2022			
(in thousands)	**Total**	**Level 1**	**Level 2**	**Level 3**
Financial assets				
Money market funds	$33,767	$33,767	$ —	$ —
U.S. treasury securities	61,970	61,970	—	—
Total financial assets	$95,737	$95,737	$ —	$ —

	December 31, 2021			
(in thousands)	**Total**	**Level 1**	**Level 2**	**Level 3**
Financial assets				
Money market funds	$ 140,856	$ 140,856	$ —	$ —
U.S. treasury securities	—	—	—	—
Total financial assets	$ 140,856	$ 140,856	$ —	$ —

(m) Investments

The Company's short-term investments consist entirely of investments in U.S. treasury securities. These investments are classified as available-for-sale debt securities and are therefore reported at fair value in the balance sheets. Unrealized gains and losses are included in accumulated other comprehensive income (loss). There were no realized gains or losses on investments for the years ended December 31, 2022 and 2021.

The Company assesses investments for impairment at each reporting period. An investment is considered impaired when the amortized cost basis exceeds the fair value. When this is the case, the Company assesses whether the impairment is credit-related or noncredit-related based on various factors. When an impairment, or a portion of an impairment, is considered credit-related, an allowance for credit losses is recorded. For the years ended December 31, 2022 and 2021, the Company recognized no year-to-date credit losses and no allowance for credit losses is recorded as of December 31, 2022 or 2021. The aggregate fair value of investments with unrealized losses as of December 31, 2022 is $40.7 million.

(n) Concentration of credit risk

Financial instruments, which potentially subject the Company to significant concentrations of credit risk, consist primarily of cash, cash equivalents, and short-term investments. Cash, cash equivalents, and short-term investments are invested in accordance with the Company's investment policy. The primary objective for the Company's investment portfolio is the preservation of capital and maintenance of liquidity and includes guidelines on the quality of financial instruments and defines allowable investments that the Company believes minimizes the exposure to concentration of credit risk.

(o) Restructuring charges

The Company records costs and liabilities associated with exit and disposal activities in accordance with ASC 420, *Exit or Disposal Cost Obligations*. Restructuring charges are recorded in the period in which they are incurred. The Company evaluates and adjusts these costs as appropriate for changes in circumstances as additional information becomes available.

(p) Recently issued and recently adopted accounting standards

In June 2016, the FASB issued Accounting Standard Update ("ASU") No. 2016-13, *Measurement of Credit Losses on Financial Instruments* (ASU 2016-13), which replaces the incurred loss impairment methodology under current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. In November 2019, the FASB issued ASU 2019-10, *Financial Instruments – Credit Losses* (Topic 326), *Derivatives* (Topic 815), and *Leases* (Topic 842). This ASU delayed the required adoption for SEC filers that are smaller reporting companies as of their determination on November 15, 2019, until annual and interim periods beginning after December 15, 2022, with early adoption permitted. The Company adopted this standard in conjunction with the investment in debt securities during the quarter ended June 30, 2022.

3. Investments

The Company's investments consist of the following (in thousands):

	December 31, 2022			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash equivalents:				
Money market funds	$ 33,767	$ —	$ —	$ 33,767
U.S. treasury securities - due within 3 months	3,473	—	—	3,473
Short-term investments:				
U.S. treasury securities - due within 1 year	58,518	6	(27)	58,497
Total	$ 95,758	$ 6	$ (27)	$ 95,737

	December 31, 2021			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash equivalents:				
Money market funds	140,856	—	—	140,856
Total	$ 140,856	$ —	$ —	$ 140,856

4. Property and equipment, net

Property and equipment, net consist of the following (in thousands):

	December 31, 2022		
	Cost	Accumulated Amortization	Net Book Value
Laboratory equipment	$ 6,773	$ 1,926	$ 4,847
Furniture, fixtures, and IT equipment	2,342	1,026	1,316
	$ 9,115	$ 2,952	$ 6,163

	December 31, 2021		
	Cost	Accumulated Amortization	Net Book Value
Laboratory equipment	$ 6,237	$ 1,006	$ 5,231
Furniture, fixtures, and IT equipment	1,850	629	1,221
	$ 8,087	$ 1,635	$ 6,452

Depreciation expense on property and equipment totaled $1.4 million and $1.1 million for the years ended December 31, 2022 and 2021, respectively.

5. Intangible asset, net

The following table summarizes intangible asset (in thousands):

	December 31,	
	2022	2021
Cost	$ 659	$ 659
Accumulated amortization	(659)	(531)
Net intangible asset	$ —	$ 128

Intangible asset, net, which is fully amortized as of December 31, 2022, included an assembled workforce that was acquired in 2019 and was being amortized over its expected life of 3 years based on management's judgment. Amortization expense was $0.1 million for the year ended December 31, 2022 and $0.2 million for the year ended December 31, 2021.

6. Accounts payable and other liabilities

Accounts payable and other liabilities consist of the following (in thousands):

	December 31,	
	2022	2021
Trade accounts payable	$ 478	$ 526
Accrued clinical and preclinical expenses	4,360	2,399
Accrued compensation and vacation	3,539	3,263
Other accrued liabilities	1,170	1,227
	$ 9,547	$ 7,415

7. Leases

The Company enters into lease arrangements for its facilities as well as certain equipment, classified either as operating or finance leases.

The Company has an operating lease agreement, as amended by the execution of two subsequent amendments, for approximately 33,300 square feet of office space in Seattle, Washington for the Company's principal executive offices, a laboratory for research and development, and related uses. In January 2020, the Company issued an irrevocable letter of credit in the amount of $0.5 million for the security deposit in accordance with the terms of the lease. The lease term commenced on January 15, 2020 and payments of rent obligations began on February 1, 2021. The lease is scheduled to expire on February 1, 2029, with the option to extend the lease for two five-year terms. The lease provides for a tenant improvement allowance of up to $9.5 million, which is included in the base rent, and has been fully utilized. The Company will also be responsible for the payment of additional rent to cover the Company's share of the annual operating, tax expenses, and utilities costs for the building.

The Company has an operating lease agreement for approximately 6,272 square feet of laboratory and office space in Seattle, Washington, for research and development and related uses. In March 2021, the Company executed an amendment to this lease pursuant to which the contractual lease term was extended through September 30, 2026, unless terminated earlier, with the option to extend the lease for an additional 28-month term. The execution of this amendment was accounted for as a modification to the lease due to the extension of the lease term and an increase in lease payments, and the Company recorded an increase in the lease liability and related right-of-use asset of $1.6 million. In December 2022, the Company entered into an agreement to sublease this space to an unrelated third party. Pursuant to the terms of the sublease, the Company is entitled to receive up to $0.5 million in base lease payments. The term of the sublease is through August 2023, with an option by the sublessee to extend such term through November 2023.

As of December 31, 2022, and December 31, 2021, the Company's operating lease right-of-use assets were $9.7 million and $10.8 million, respectively. As of December 31, 2022, and December 31, 2021, the Company's finance lease right-of use-assets, included within property and equipment on the balance sheet, were $0.5 million and $0.2 million, respectively.

The components of the lease expense were as follows (in thousands):

	December 31,	
	2022	2021
Finance lease cost		
Amortization of right-of-use asset	$ 58	$ 49
Interest on lease liabilities	8	12
Operating lease cost	2,542	2,535
Short term lease cost	—	40
Variable lease cost	1,124	2,161
Total net lease cost	$3,732	$4,797

Supplemental balance sheet information related to leases is as follows:

	December 31,	
	2022	2021
Weighted average remaining lease term—finance leases	3.00 years	2.70 years
Weighted average remaining lease term—operating leases	5.87 years	6.86 years
Weighted average discount rate—finance leases	6.99%	6.98%
Weighted average discount rate—operating leases	12.46%	12.42%

Supplemental cash flow information related to leases was as follows (in thousands):

	December 31, 2022	2021
Cash paid for amounts included in the measurement of operating lease liabilities	$2,657	$2,249
Cash paid for amounts included in the measurement of finance lease liabilities	$ 64	$ 63

The calculation of the present value of the lease payments for operating leases did not include any options to extend the leases as the Company is not reasonably certain to exercise such options.

At December 31, 2022, the future payments under the Company's operating and finance lease liabilities were as follows (in thousands):

	Finance Lease	Operating Lease
2023	$ 173	$ 2,718
2024	109	2,781
2025	109	2,845
2026	26	2,806
2027	—	2,557
Thereafter	—	2,835
Total undiscounted lease payments	417	16,542
Less: imputed interest	(44)	(4,845)
Total lease liabilities	373	11,697
Less: current portion	(140)	(1,375)
Non-current lease liabilities—December 31, 2022	$ 233	$ 10,322

8. Stockholders' equity

(a) Common stock and pre-funded warrants

The Company is authorized to issue 100,000,000 shares of common stock with a par value of $0.000001 per share as of December 31, 2022. As of December 31, 2022, and 2021, the total number of shares of common stock issued and outstanding was 42,648,346, and 42,457,471, respectively.

The Company has pre-funded warrants outstanding to purchase an aggregate of 12,663,010 shares of common stock as of December 31, 2022. The pre-funded warrants are exercisable at any time for an exercise price of $0.000001, except that the pre-funded warrants cannot be exercised by the holders if, after giving effect thereto, the holders would beneficially own more than 9.99% of the outstanding common stock, subject to certain exceptions. However, any holder may increase or decrease such percentage to any other percentage (not in excess of 19.99%) upon at least 61 days' prior notice from the holder to the Company. The holders of the pre-funded warrants will not have the right to vote on any matter except to the extent required by Delaware law.

On November 4, 2021, the Company entered into an ATM "at-the-market" Equity Offering Sales Agreement (the "Sales Agreement") with BofA Securities, Inc., as agent ("BofA"), pursuant to which the Company may offer and sell, from time to time through BofA, shares of the Company's common stock, having an aggregate offering price of up to $40.0 million. The offer and sale of the shares will be made pursuant to a shelf registration statement on Form S-3 and the related prospectus filed on December 11, 2020, and declared effective by the SEC on December 21, 2020, as supplemented by a prospectus supplement dated November 4, 2021. The Company has no obligation to sell any such shares under the Sales Agreement. As of December 31, 2022, no sales of common stock had been made pursuant to the Sales Agreement.

(b) Preferred stock

The Company is authorized to issue 5,000,000 shares of preferred stock with a par value of $0.000001 per share. As of December 31, 2022 and 2021, 0 shares of preferred stock were issued or outstanding.

(c) Stock option plan

The 2014 Equity Incentive Plan ("2014 Plan"), as amended and restated on May 13, 2021, became effective in March 2014 and is the successor to and continuation of the Joint Canadian Stock Option Plan (the "2006 Plan"). No further grants will be made under the 2006 Plan. The 2014 Plan provides for the grant of stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance stock awards, performance cash awards, and other forms of equity awards to employees, directors, and consultants.

As of December 31, 2022, the maximum number of shares of common stock that may be issued under the 2014 Plan was 13,408,356. The number of shares of common stock reserved for issuance under the 2014 Plan will be increased by the number of shares subject to stock options granted under the 2006 Plan that would have otherwise returned to the 2006 Plan, such as upon the expiration or termination of a stock award prior to vesting. As of December 31, 2022, there were no shares subject to stock options granted under the 2006 Plan. Additionally, the number of shares of common stock reserved for issuance under the 2014 Plan will automatically increase on January 1 of each year, beginning on January 1, 2022 and ending on and including January 1, 2030, by 4.00% of the sum of (A) the total number of shares of capital stock and (B) the total number of shares of common stock subject to pre-funded warrants, in each case outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by the board of directors. On January 1, 2023, the number of shares of common stock reserved under the 2014 Plan was increased by 2,212,454 shares. All stock options granted pursuant to the 2014 Plan have a contractual term of ten years. All awards granted to date are equity classified and subject to either service or performance based vesting, typically over a period of one to four years.

The number of shares available to be granted under the 2014 Plan was 6,705,058 and 5,040,300 as of December 31, 2022 and 2021, respectively.

Stock options

A summary of the Company's stock option activity and related information for the year ended December 31, 2022 is as follows:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (In Years)	Aggregate Intrinsic Value (In Thousands)
Outstanding at December 31, 2021	8,963,945	$ 7.20	8.32	$ 6,912
Options granted	3,431,050	$ 1.32		
Options exercised	(36,500)	$ 3.67		
Options cancelled/forfeited	(3,844,114)	$ 7.10		
Outstanding at December 31, 2022	8,514,381	$ 4.89	8.32	$ —
Exercisable as of December 31, 2022	3,890,924	$ 6.01	7.18	$ —

During the year ended December 31, 2022, 36,500 shares of common stock were issued upon exercise of options with an aggregate intrinsic value of $0.1 million. During the year ended December 31, 2021, 124,928 shares of common stock were issued upon exercise of options with an aggregate intrinsic value of $1.3 million. The weighted-average grant date fair value of options granted during the years ended December 31, 2022 and 2021 was $0.95 and $6.37 per share, respectively.

The fair value of stock options granted is estimated using the Black-Scholes option pricing model with the following weighted average assumptions:

	December 31,	
	2022	2021
Expected volatility	84%	89%
Expected dividends	0%	0%
Expected terms (years)	6.04	6.03
Risk free rate	2.66%	0.93%

Restricted stock units

A summary of the Company's restricted stock unit activity and related information for the year ended December 31, 2022 is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Non-vested at December 31, 2021	132,000	$ 9.97
Restricted stock units granted	700,000	$ 3.69
Restricted stock units vested	(24,750)	$ 12.20
Restricted stock units forfeited	(428,750)	$ 4.66
Non-vested at December 31, 2022	378,500	$ 4.22

(d) Stock-based compensation

Stock-based compensation expense is classified in the statements of operations as follows (in thousands):

	December 31,	
	2022	2021
Research and development expenses	$4,342	$ 5,095
General and administrative expenses	4,487	6,462
Total stock-based compensation expense	$8,829	$ 11,557

Total unrecognized compensation for all stock-based compensation was $13.4 million as of December 31, 2022, which is expected to be recognized over a weighted-average period of 2.15 years.

(e) Employee stock purchase plan

The Company's 2020 Employee Stock Purchase Plan ("2020 ESPP") was adopted by the Company's board of directors in March 2020 and approved by the Company's stockholders in May 2020. A total of 759,936 shares of common stock have been reserved for issuance under the 2020 ESPP.

Subject to share and dollar limits as described in the plan, the 2020 ESPP allows eligible employees to contribute, through payroll deductions, up to 15% of their earnings for the purchase of the Company's shares of common stock at the lower of 85% of the closing price of the Company's common stock on the first trading day of the offering period or 85% of the closing price of the Company's common stock on the last trading day of the offering period. There are two six-month offering periods during each fiscal year, ending on May 15 and November 15.

During the year ended December 31, 2022, the Company issued 75,881 shares of common stock at a price per share of $0.83 and 53,744 of shares of common stock at a price per share of $0.36, respectively, under the 2020 ESPP. During the year ended December 31, 2021, the Company issued 22,972 shares of common stock at a price per share of $9.53 and 28,775 of shares of common stock at a price per share of $5.33, respectively, under the 2020 ESPP. Cash received from the purchases under the 2020 ESPP for the years ended December 31, 2022 and 2021 was $0.1 million and $0.4 million, respectively. As of December 31, 2022 and 2021, employee contributions included in accounts payable and accrued liabilities in the accompanying balance sheet were immaterial.

9. Net loss per common stock

The Company excluded the following potentially dilutive shares from diluted net loss per share as the effect would have been anti-dilutive for all periods presented:

	December 31,	
	2022	2021
Outstanding stock options	8,514,381	8,963,945
Restricted stock units	378,500	132,000
Shares issuable under 2020 ESPP	49,251	53,446
	8,942,132	9,149,391

10. Income taxes

Income tax recovery varies from the amounts that would be computed by applying the expected U.S. federal income tax rate (21%) as shown in the following table:

	December 31,	
	2022	2021
Statutory federal income tax rate	(21.0)%	(21.0)%
Stock-based compensation	2.2	2.0
Change in valuation allowance	21.4	21.2
Tax credits	(2.6)	(2.2)
Income tax recovery	— %	— %

Net loss before taxes (in thousands):	Years Ended December 31,	
	2022	2021
U.S.	(57,578)	(60,692)
Total	$ (57,578)	$ (60,692)

Deferred income tax assets and liabilities result from the temporary differences between the amount of assets and liabilities recognized for financial statement and income tax purposes. The significant components of the deferred income tax assets are as follows (in thousands):

	December 31,	
	2022	2021
Deferred tax assets:		
U.S. net operating losses	$ 26,362	$ 22,863
Research and development deductions and credits	3,931	2,414
Intangibles	446	457
Lease liability	2,456	2,701
Stock-based compensation	2,274	1,695
Capitalized research and development	6,920	—
Other	168	186
Total deferred tax assets:	42,557	30,316
Deferred income tax liabilities		
Right-of-use assets	2,040	2,261
Other	410	287
Total deferred tax liabilities	2,450	2,548
Net deferred income tax assets	40,107	27,768
Less: valuation allowance	(40,107)	(27,768)
Deferred tax assets, net of valuation allowance	$ —	$ —

The Tax Cuts and Jobs Act contained a provision which requires the capitalization of Section 174 costs incurred in years beginning on or after January 1, 2022. Section 174 costs are expenditures which represent research and development costs that are incident to the development or improvement of a product, process, formula, invention, computer software, or technique. This provision changes the treatment of Section 174 costs such that the expenditures are no longer allowed as an immediate deduction but rather must be capitalized and amortized.

The Company has included the impact of this provision, which results in a deferred tax asset of approximately $6.9 million as of December 31, 2022.

At December 31, 2022 and December 31, 2021, the Company had U.S. federal net operating losses (“NOL”) carryforwards for tax purposes of approximately $124.9 million and $108.2 million, respectively, which were available to reduce taxable income. Of the $124.9 million of federal NOL carryforwards, $1.7 million will expire between the years 2028 and 2037 and the remaining $123.2 million are indefinite. The Company also has U.S. federal research & development tax credits of $3.9 million and $2.4 million as of December 31, 2022 and December 31, 2021, respectively, that begin to expire in 2039. The Company completed a formal study under IRC Section 382 through 2019 to determine the U.S. tax attributes available for use. The U.S. attributes disclosed reflect the conclusion of that study. However, subsequent ownership changes may further affect the limitation in future years.

The Company maintains a full valuation allowance on its net U.S. deferred tax assets. The assessment regarding whether a valuation allowance is required considers both positive and negative evidence when determining whether it is more likely than not that deferred tax assets are recoverable. In making this assessment, significant weight is given to evidence that can be objectively verified. In its evaluation, the Company considered its cumulative losses and its forecasted losses in the near-term as significant negative evidence. Therefore, the Company determined that the negative evidence outweighed the positive evidence and a full valuation allowance on its assets will be maintained. The Company will continue to assess the realizability of its assets going forward and will adjust the valuation allowance as needed. The valuation allowance increased by $12.3 million for the

year ended December 31, 2022. The increase is primarily due to an increase in U.S. net operating losses, capitalized research expense, and research and development tax credits. The valuation allowance increased by $12.9 million for the year ended December 31, 2021. The increase is primarily due to an increase in U.S. net operating losses and research and development tax credits.

The Company applies judgment in the determination of the financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. As of December 31, 2022, the Company had no uncertain tax positions.

The Company currently files income tax returns in the United States, the jurisdictions in which the Company believes that it is subject to tax. Further, while the statute of limitations in each jurisdiction where an income tax return has been filed generally limits the examination period, as a result of loss carryforwards, the limitation period for examination generally does not expire until several years after the loss carryforwards are utilized. Other than routine audits by tax authorities for tax credits and tax refunds that the Company has claimed, the Company is not aware of any other material income tax examination currently in progress by any taxing jurisdiction.

11. License and patent agreements

On July 8, 2019, Neoleukin Therapeutics, Inc., or Former Neoleukin, entered into an exclusive license agreement with the University of Washington ("UW"), under which UW (on behalf of itself and Stanford University) granted the Company an exclusive worldwide license under certain patent rights, to make, have made, use, offer to sell, sell, offer to lease or lease, import, export or otherwise offer to dispose of licensed products in all fields of use, and a nonexclusive worldwide license to use certain know-how. The foregoing licenses are sublicensable by the Company without UW's consent, subject to certain limited conditions. The Exclusive License Agreement was amended effective as of July 24, 2020 to, among other things, (i) add a jointly owned *de novo* cytokine antagonist to the agreement, (ii) specify royalties, milestone payments and sublicense consideration payments payable by Neoleukin for certain jointly licensed products, (iii) specify the term for achievement of performance milestones for certainly jointly licensed products, and (iv) terminate UW's right to participate in equity financings. The Exclusive License Agreement was amended a second time, effective as of December 15, 2021 to, among other things, add a second jointly owned patent application family directed to *de novo* cytokine antagonists to the agreement subject to the same terms of the first jointly owned patent application family.

As consideration for the licensed rights, Former Neoleukin issued 536,813 shares of common stock to UW. These shares were exchanged for 188,974 shares of common stock of the Company and 4,197 shares of non-voting convertible preferred stock on the completion of the merger of Former Neoleukin into the Company in August 2019. Such convertible preferred shares were subsequently converted into 419,700 shares of common stock in November 2019.

Furthermore, the Company is required to pay; (i) an annual maintenance fee beginning in January 2022 (but excluding any year in which minimum annual royalties are paid); (ii) up to $0.9 million in combined development and regulatory milestone payments with respect to each distinct class of licensed product; (iii) up to $10.0 million in combined commercial milestone payments based on cumulative net sales of licensed products within each distinct class of licensed products, beginning when cumulative net sales of the class of licensed products equals or exceeds $100.0 million, with the majority payable when cumulative net sales of the class of licensed products equals or exceeds $1.0 billion; (iv) a low single-digit royalty on net sales of licensed products sold by the Company and its sublicensees, which may be subject to reductions, and subject to minimum annual royalty payments following the first commercial sale of a licensed product; (v) a certain percentage of any sublicense consideration (other than royalties) the Company receives from sublicensees, based on the stage of development at the time the sublicense is executed; and (vi) a certain percentage of consideration the Company receives from an acquisition of the Company or its assets based on the stage of development at the relevant time. The Company is obligated to pay royalties on a country-by-country basis until the expiration of the last valid claim within the licensed patent rights in such country.

The agreement will expire upon the expiration of the last valid claim within the licensed patent rights. The Company may terminate the agreement upon prior written notice to UW. UW may terminate the agreement by a specified number of days' notice if the Company permanently ceases operations, becomes insolvent or similar, or if the Company challenges the validity of the licensed patent rights. In addition, UW may terminate the agreement for material breach that is not cured within a specified number of days, which cure period is to be at least doubled if the Company is proceeding diligently to cure the default.

12. 401(k) plan

In May 2020, the Company established a 401(k) plan that allows full-time employees to contribute a portion of their salary, subject to statutory limits. The Company makes matching cash contributions up to a pre-defined annual maximum contribution per employee per year. During the years ended December 31, 2022 and December 31, 2021, the Company's total expense for the matching contributions was immaterial.

13. Workforce reduction

On November 14, 2022, the Company announced the decision to discontinue further development of NL-201. In conjunction with this decision, the Company's Board of Directors approved a restructuring plan that includes a reduction of approximately 40% of the Company's workforce (the "November 2022 Reduction").

The Company expects to incur aggregate restructuring charges consisting of severance payments, benefits, and other employee related costs of $1.8 million, of which $1.4 million was incurred during the year ended December 31, 2022 and the remaining $0.4 million will be incurred during the quarter ended March 31, 2023 due to future service requirements by certain employees to receive severance benefits. Of the $1.4 million of restructuring charges incurred during the year ended December 31, 2022, $0.2 million is included in general and administrative expenses and $1.2 million is included in research and development expenses in the statement of operations and comprehensive income. The Company expects to pay all remaining restructuring charges by the end of 2023.

A summary of the accrued liabilities activity recorded in connection with the November 2022 Reduction for the year ended December 31, 2022 is as follows (in thousands):

	Charges	Amounts Paid	Accrued at December 31, 2022
Employee severance, benefits, and related costs			
November 2022 Reduction	$1,407	$ 366	$ 1,041
Total	$1,407	$ 366	$ 1,041

14. Subsequent Events

On March 6, 2023, the Company's Board of Directors approved a reduction in force of the Company's workforce by approximately 70% and a re-prioritization of the Company's focus to seek strategic alternatives to maximize shareholder value (the "Restructuring Plan"). The Company's current best estimate of costs it will incur total between $2.5 million and $3.0 million, consisting of employee related costs, including severance and benefits and equity compensation, contract termination costs, and other costs. Approximately $0.3 million of these costs are expected to be non-cash expenses. The majority of these costs are expected to be incurred during the first half of 2023, and the Company expects the execution of the Restructuring Plan will be substantially complete by the end of the second quarter of 2023. These costs are incremental to the exit and disposal costs previously disclosed in Item 5 of the Company's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 14, 2022.

NEOLEUKIN THERAPEUTICS, INC.

Condensed Balance Sheets
(Unaudited)
(In thousands of U.S. dollars, except per share and share amounts)

	June 30, 2023	December 31, 2022
Assets		
Current assets		
Cash and cash equivalents	$ 31,110	$ 37,887
Short-term investments	50,952	58,497
Other current assets	1,718	2,750
Total current assets	83,780	99,134
Property and equipment, net	561	6,163
Operating lease right-of-use assets	9,135	9,715
Other non-current assets	529	936
Total assets	$ 94,005	$ 115,948
Liabilities		
Current liabilities		
Accounts payable and accrued liabilities	$ 3,387	$ 9,547
Operating lease liabilities	1,490	1,375
Finance lease liabilities	3	140
Total current liabilities	4,880	11,062
Non-current operating lease liabilities	9,543	10,322
Non-current finance lease liabilities	6	233
Total liabilities	14,429	21,617
Stockholders' equity		
Common stock - $0.000001 par value - authorized, 100,000,000 as of June 30, 2023 and December 31, 2022; issued and outstanding, 44,021,429 as of June 30, 2023 and 42,648,346 as of December 31, 2022	—	—
Preferred stock - $0.000001 par value - authorized, 5,000,000 as of June 30, 2023 and December 31, 2022; issued and outstanding, 0 as of June 30, 2023 and December 31, 2022	—	—
Additional paid-in capital	546,933	545,407
Accumulated other comprehensive income (loss)	(13)	(21)
Accumulated deficit	(467,344)	(451,055)
Total stockholders' equity	79,576	94,331
Total liabilities and stockholders' equity	$ 94,005	$ 115,948

The accompanying notes form an integral part of these condensed financial statements.

NEOLEUKIN THERAPEUTICS, INC.

Condensed Statements of Operations and Comprehensive Income (Loss)
(Unaudited)
(In thousands of U.S. dollars, except per share and share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Operating expenses				
Research and development	$ (426)	$ 10,956	$ 7,263	$ 21,656
General and administrative	3,492	4,915	7,519	9,580
Impairment of property and equipment	—	—	3,418	—
Total operating expenses	3,066	15,871	18,200	31,236
Loss from operations	(3,066)	(15,871)	(18,200)	(31,236)
Interest income	981	194	1,926	207
Other income (loss), net	—	(11)	(15)	(10)
Net loss	$ (2,085)	$ (15,688)	$ (16,289)	$ (31,039)
Comprehensive income (loss):				
Unrealized gain (loss) on available-for-sale securities	(31)	(72)	8	(72)
Comprehensive loss	$ (2,116)	$ (15,760)	$ (16,281)	$ (31,111)
Net loss per share – basic and diluted	$ (0.04)	$ (0.28)	$ (0.29)	$ (0.56)
Basic and diluted weighted average common shares outstanding	56,158,629	55,203,709	55,791,808	55,173,789

The accompanying notes form an integral part of these condensed financial statements.

NEOLEUKIN THERAPEUTICS, INC.

Condensed Statements of Cash Flows
(Unaudited)
(In thousands of U.S. dollars)

	Six Months Ended June 30,	
	2023	**2022**
Operating activities		
Net loss	$(16,289)	$ (31,039)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	1,522	4,758
Depreciation and amortization	406	870
Impairment of property and equipment	3,418	—
Amortization of operating lease right-of-use assets	580	509
Amortization and accretion of premiums/discounts on available-for-sale securities	(1,178)	3
Gain on sale of property and equipment	(47)	—
Changes in operating assets and liabilities:		
Other current assets and other non-current assets	1,046	(537)
Accounts payable and accrued liabilities	(5,876)	614
Operating lease liabilities	(664)	(563)
Net cash used in operating activities	(17,082)	(25,385)
Investing activities		
Purchases of property and equipment	(551)	(684)
Proceeds from sale of property and equipment	2,115	—
Purchases of available-for-sale securities	(55,269)	(39,067)
Proceeds from maturities of available-for-sale securities	64,000	—
Net cash provided by (used in) investing activities	10,295	(39,751)
Financing activities		
Proceeds from exercise of stock options	—	134
Payment on finance lease obligations	(364)	(2)
Proceeds from the issuance of common stock under Employee Stock Purchase Plan	4	63
Net cash provided by (used in) financing activities	(360)	195
Net change in cash, cash equivalents, and restricted cash during the period	(7,147)	(64,941)
Cash, cash equivalents, and restricted cash, beginning of period	38,765	143,345
Cash, cash equivalents, and restricted cash, end of period	$ 31,618	$ 78,404
Supplemental disclosure of non-cash investing and financing activities:		
Purchases of property and equipment unpaid at period-end	$ —	$ 265

The accompanying notes form an integral part of these condensed financial statements.

NEOLEUKIN THERAPEUTICS, INC.

Condensed Statements of Stockholders' Equity
(Unaudited)
(In thousands of U.S. dollars, except share amounts)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Number	Amount				
Balances, December 31, 2022	42,648,346	$ —	$545,407	$ (21)	$ (451,055)	$ 94,331
Shares issued upon vesting of restricted stock units	170,000	—	—	—	—	—
Unrealized gain on available-for-sale securities	—	—	—	39	—	39
Stock-based compensation	—	—	1,191	—	—	1,191
Net loss	—	—	—	—	(14,204)	(14,204)
Balances, March 31, 2023	42,818,346	$ —	$546,598	$ 18	$ (465,259)	$ 81,357
Shares issued upon the exercise of pre-funded warrants	1,180,000	—	—	—	—	—
Issuance of shares under Employee Stock Purchase Plan	13,083	—	4	—	—	4
Shares issued upon vesting of restricted stock units	10,000	—	—	—	—	—
Stock-based compensation	—	—	331	—	—	331
Unrealized loss on available-for-sale securities	—	—	—	(31)	—	(31)
Net loss	—	—	—	—	(2,085)	(2,085)
Balances, June 30, 2023	44,021,429	$ —	$546,933	$ (13)	$ (467,344)	$ 79,576

The accompanying notes form an integral part of these condensed financial statements.

NEOLEUKIN THERAPEUTICS, INC.

Condensed Statements of Stockholders' Equity
(Unaudited)
(In thousands of U.S. dollars, except share amounts)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (loss)	Accumulated Deficit	Total Stockholders' Equity
	Number	Amount				
Balances, December 31, 2021	42,457,471	$ —	$536,362	$ —	$ (393,498)	$ 142,864
Shares issued upon exercises of stock options	36,500	—	134	—	—	134
Stock-based compensation	—	—	2,446	—	—	2,446
Net loss	—	—	—	—	(15,351)	(15,351)
Balances, March 31, 2022	42,493,971	$ —	$538,942	$ —	$ (408,849)	$ 130,093
Issuance of shares under Employee Stock Purchase Plan	75,881	—	63	—	—	63
Shares issued upon vesting of restricted stock units	10,000	—	—	—	—	—
Stock-based compensation	—	—	2,312	—	—	2,312
Unrealized loss on available-for-sale securities	—	—	—	(72)	—	(72)
Net loss	—	—	—	—	(15,688)	(15,688)
Balances, June 30, 2022	42,579,852	$ —	$541,317	$ (72)	$ (424,537)	$ 116,708

The accompanying notes form an integral part of these condensed financial statements.

NEOLEUKIN THERAPEUTICS, INC.

Notes to the Condensed Financial Statements
(Unaudited)

1. Nature of operations

Neoleukin Therapeutics, Inc. ("Neoleukin" or "the Company") has historically been a biopharmaceutical company creating next generation immunotherapies for cancer, inflammation, and autoimmunity using *de novo* protein design technology. Based on decisions made by the Company's Board of Directors in November 2022 and March 2023, the Company has restructured operations to significantly reduce its workforce, discontinue development of NL-201, a *de novo* protein that was in Phase 1 clinical trial for the treatment of cancer, and suspended all research and development activities in order to conserve capital and focus on other strategic alternatives for the Company.

On July 17, 2023, Neoleukin, Project North Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of Neoleukin ("Merger Sub"), and Neurogene Inc., a privately held Delaware corporation ("Neurogene"), entered into an Agreement and Plan of Merger (the "Merger Agreement"), pursuant to which, among other matters, and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly owned subsidiary of Neoleukin and the surviving corporation of the merger (the "Merger"). The Merger is intended to qualify for federal income tax purposes as a tax-free reorganization under the provisions of Section 368(a) of the Internal Revenue Code of 1986, as amended (the "IRC"). The Merger Agreement is subject to customary closing conditions, including approval of certain matters by stockholders of each of Neoleukin and Neurogene, and is anticipated to close in the fourth quarter of 2023, assuming satisfaction or waiver of all of the conditions of the Merger.

If the Merger is completed, Neoleukin will continue as the surviving corporation after the Merger, but will change its name to Neurogene Inc., and the management of Neurogene is expected to become the management of the surviving corporation. The surviving company is expected to pursue the business activities of Neurogene following the closing of the Merger.

2. Summary of significant accounting policies

(a) Basis of presentation

The accompanying unaudited condensed financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") and pursuant to the rules and regulations of the United States Securities and Exchange Commission ("SEC") for interim financial information. Accordingly, these financial statements do not include all of the information and footnotes required by U.S. GAAP for complete financial statements and should be read in conjunction with the audited consolidated financial statements and accompanying notes included in the Company's Annual Report on Form 10-K for the year ended December 31, 2022, filed with the Securities and Exchange Commission on March 20, 2023.

In management's opinion, the unaudited condensed financial statements reflect all adjustments (consisting of normal recurring adjustments) necessary to present fairly the financial position of the Company as of June 30, 2023, and results of operations and cash flows for all periods presented. The interim results presented are not necessarily indicative of results that can be expected for the full year ending December 31, 2023. The Company reclassified prior year interest income in the condensed statements of operations and comprehensive income (loss) to conform to current year presentation. This reclassification had no effect on net loss or comprehensive loss.

(b) Use of estimates and assumptions

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Significant areas requiring estimates include valuation and recognition of stock-based compensation, the incremental borrowing rate utilized in the measurement of operating and finance lease liabilities, amortization/depreciation and impairment of property and equipment, and pre-clinical, clinical, and other accruals. Actual results could differ from those estimates.

(c) Property and equipment, net

Property and equipment are recorded at cost and are amortized using the straight-line basis over a range of three to seven years.

The Company reviews the carrying value of property and equipment for impairment whenever events and circumstances indicate that the carrying value of an asset may not be recoverable from the estimated future cash flows expected to result from its use and eventual disposition. In cases where undiscounted expected future cash flows are less than the carrying value, an impairment loss is recognized equal to an amount by which the carrying value exceeds the fair value of assets. The factors considered by management in performing this assessment include current operating results, trends and prospects, the manner in which the property is used, and the effects of obsolescence, demand, competition, and other economic factors. Based on management's assessment, as a result of the corporate restructuring announced in March 2023, including the decision to suspend all research and development activities, there were indicators of impairment of certain property and equipment. In March 2023, the Company recorded $3.4 million in impairment charges. There were no additional indicators of impairment of property and equipment as of June 30, 2023 and none as of December 31, 2022.

(d) Leases

At contract inception, the Company determines if the contract is or contains a lease. Lease liabilities are recognized on the lease commencement date based on the estimated present value of lease payments over the lease term. To determine the present value of the lease payments, the Company utilizes its estimated incremental borrowing rate based on information available at the lease commencement date as the interest rate implicit in the lease is typically not readily determinable. The related right-of-use assets are recorded net of any lease incentives received. Variable lease cost primarily includes building operating expenses as charged to the Company by its landlords.

The Company includes options to extend the lease in its lease liability and right-of-use asset when it is reasonably certain that it will exercise that option. None of the Company's options to extend the rental term of any of its existing leases were considered reasonably certain as of June 30, 2023.

For leases of office space and equipment, the Company has elected to not separate the lease components from the non-lease components.

For leases with a lease term of 12 months or less and which do not include an option to purchase the underlying asset, the Company has elected to recognize the lease payments in the statement of operations on a straight-line basis over the lease term.

(e) Fair value of financial instruments

The carrying amounts of certain of the Company's financial instruments, including cash and cash equivalents, restricted cash, receivables, accounts payable and other liabilities, approximate their fair values because of their nature and/or short maturities.

Certain of the Company's financial instruments are measured at fair value on a recurring basis. The Company determines the fair value of those financial instruments based upon the fair value hierarchy, which prioritizes valuation inputs based on the observable nature of those inputs. The three levels of the fair value hierarchy are as follows:

Level 1 - quoted prices (unadjusted) in active markets for identical assets or liabilities that can be accessed on the measurement date

Level 2 - quoted prices (in non-active markets or in active markets for similar assets or liabilities), observable inputs other than quoted prices and inputs that are not directly observable but are corroborated by observable market data

Level 3 - unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities

The following table presents information about the Company's financial instruments that are measured at fair value on a recurring basis:

	June 30, 2023			
(in thousands)	Total	Level 1	Level 2	Level 3
Financial assets				
Money market funds	$ 30,593	$ 30,593	$ —	$ —
U.S. treasury securities	50,965	50,965	—	—
Total financial assets	$ 81,558	$ 81,558	$ —	$ —

	December 31, 2022			
(in thousands)	Total	Level 1	Level 2	Level 3
Financial assets				
Money market funds	$ 33,767	$ 33,767	$ —	$ —
U.S. treasury securities	61,970	61,970	—	—
Total financial assets	$ 95,737	$ 95,737	$ —	$ —

(f) Investments

The Company's short-term investments consist entirely of investments in U.S. treasury securities. These investments are classified as available-for-sale debt securities and are therefore reported at fair value in the condensed balance sheets. Unrealized gains and losses are included in accumulated other comprehensive income (loss). There were no realized gains or losses on investments for the three and six months ended June 30, 2023 and 2022.

The Company assesses investments for impairment at each reporting period. An investment is considered impaired when the amortized cost basis exceeds the fair value. When this is the case, the Company assesses whether the impairment is credit-related or noncredit-related based on various factors. When an impairment, or a portion of an impairment, is considered credit-related, an allowance for credit losses is recorded. For the six months ended June 30, 2023, the Company recognized no year-to-date credit losses and no allowance for credit losses is recorded as of June 30, 2023. The aggregate fair value of investments with unrealized losses as of June 30, 2023 is $31.1 million.

(g) Net loss per share

Basic net loss per share is calculated by dividing the net loss by the weighted average number of shares of common stock outstanding for the period, without consideration for common stock equivalents. Common stock

equivalents are included in the calculation of diluted earnings per share only in periods of net income and are excluded in the calculation of diluted net loss per share in periods of net loss as their inclusion would be anti-dilutive. Outstanding pre-funded warrants as of June 30, 2023 and June 30, 2022 was 11,483,010 and 12,663,010, respectively. They are considered outstanding as of their issuance date and are included in basic and diluted net loss per share because they are fully vested and exercisable for nominal cash consideration.

(h) Accounting for stock-based compensation

The Company has issued stock options and restricted stock units ("RSUs"). The Company measures the cost of services received in exchange for an award of equity instruments based on the grant-date fair value of the award. The cost of such award is recognized on a straight-line basis over the requisite service period, which is generally the vesting period. The Company accounts for forfeitures as they occur. The Company utilizes newly issued shares to satisfy option exercises, the vesting of RSUs, and 2020 Employee Stock Purchase Plan ("2020 ESPP") purchases.

The Company estimates the fair value of options using the Black-Scholes option pricing model on the grant date. This approximation uses assumptions regarding a number of inputs that requires management to make significant estimates and judgments. The expected term represents the period that the Company's stock-based awards are expected to be outstanding. As the Company does not have sufficient historical experience for determining the expected term of the stock option awards granted, the Company has based its expected term for awards issued to employees on the simplified method, which represents the average period from vesting to the expiration of the stock option. In addition, the Company does not have sufficient trading history of the Company's common stock, and therefore, the expected stock price volatility for the Company's common stock was estimated by taking the average historical price volatility for industry peers. The Company has never declared or paid any cash dividends to common stockholders and does not presently plan to pay cash dividends in the foreseeable future. Consequently, the Company used an expected dividend yield of zero. The risk-free interest rate was based on the yields of treasury securities with maturities similar to the expected term of the options for each option group.

The fair value of each RSU is measured using the closing price of the Company's common stock on the date of grant.

(i) Restructuring charges

The Company records costs and liabilities associated with exit and disposal activities in accordance with ASC 420, *Exit or Disposal Cost Obligations*. Restructuring charges are recorded in the period in which they are incurred. The Company evaluates and adjusts these costs as appropriate for changes in circumstances as additional information becomes available.

(j) Recently issued and recently adopted accounting standards

The Company monitors and evaluates the issuance of Accounting Standards Updates ("ASUs"). No ASUs have been issued recently which impact the Company's financial statements and disclosures.

3. Cash, cash equivalents, and restricted cash

The Company considers all highly liquid investments with an original contractual maturity or a remaining maturity of three months or less at the date of purchase to be cash equivalents. Cash equivalents consist of money market funds and U.S. treasury securities as of June 30, 2023 and December 31, 2022.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash in the condensed balance sheets that sum to the total of the same such amounts shown in the condensed statements of cash flows:

(in thousands)	June 30, 2023	December 31, 2022
Cash and cash equivalents	$31,110	$ 37,887
Restricted cash	508	878
Total cash, cash equivalents, and restricted cash	$31,618	$ 38,765

Restricted cash, included in other non-current assets in the condensed balance sheets, includes $0.5 million in cash deposits the Company maintains with its bank as collateral for the irrevocable letter of credit related to its lease obligations.

4. Investments

The Company's investments consist of the following:

	June 30, 2023			
(in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash equivalents:				
Money market funds	$ 30,593	$ —	$ —	$30,593
Short-term investments:				
U.S. treasury securities - due within 1 year	50,965	2	(15)	50,952
Total	$ 81,558	$ 2	$ (15)	$81,545

	December 31, 2022			
(in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash equivalents:				
Money market funds	$ 33,767	$ —	$ —	$33,767
U.S. treasury securities - due within 3 months	3,473	—	—	3,473
Short-term investments:				
U.S. treasury securities - due within 1 year	58,518	6	(27)	58,497
Total	$ 95,758	$ 6	$ (27)	$95,737

5. Leases

The Company enters into lease arrangements for its facilities as well as certain equipment, classified either as operating or finance leases.

The Company has an operating lease agreement, as amended by the execution of two subsequent amendments, for approximately 33,300 square feet of office space in Seattle, Washington for the Company's principal executive offices, a laboratory for research and development, and related uses. The lease commenced on January 15, 2020 and expires on February 1, 2029, with the option to extend the lease for two five-year terms. The lease provides for a tenant improvement allowance of up to $9.5 million, which has been fully utilized.

The Company has an operating lease agreement for approximately 6,272 square feet of office space in Seattle, Washington, for additional office and laboratory space for research and development and related uses. In March

2021, the Company executed an amendment to this lease pursuant to which the contractual lease term was extended through September 30, 2026, unless terminated earlier, with the option to extend the lease for an additional 28-month term. In December 2022, the Company entered into an agreement to sublease this office and laboratory space in Seattle, Washington to an unrelated third party. Pursuant to the terms of the sublease, the Company is entitled to receive up to $0.5 million in base lease payments. The term of the sublease is through August 31, 2023, with an option by the sublessee to extend such term through November 30, 2023.

As of June 30, 2023, and December 31, 2022, the Company's operating lease right-of-use assets were $9.1 million and $9.7 million, respectively. As of June 30, 2023, the Company's finance lease right-of-use assets, included within property and equipment on the condensed balance sheets, were immaterial. As of December 31, 2022, the Company's finance lease right-of-use assets were $0.5 million.

6. Equity

(a) Common stock and pre-funded warrants

The Company is authorized to issue 100,000,000 shares of common stock with a par value of $0.000001 as of June 30, 2023 and December 31, 2022. As of June 30, 2023 and December 31, 2022, the total number of shares of common stock issued and outstanding was 44,021,429 and 42,648,346, respectively.

As of June 30, 2023, the Company had pre-funded warrants outstanding to purchase an aggregate of 11,483,010 shares of common stock. The pre-funded warrants are exercisable at any time for an exercise price of $0.000001, except that the terms of the pre-funded warrants provide that such warrants cannot be exercised by the holders if, after giving effect thereto, the holders would beneficially own more than 9.99% of the outstanding common stock (the "Exercise Cap"), subject to certain exceptions. However, any holder may increase or decrease the Exercise Cap to any other percentage (not in excess of 19.99%) upon at least 61 days' prior notice from the holder to the Company. On July 18, 2023, the Company received notice from the holders of all of our outstanding pre-funded warrants to increase the Exercise Cap up to 19.99%, effective 61 days from the date of such notice. The holders of the pre-funded warrants will not have the right to vote on any matter except to the extent required by Delaware law.

During the three months ended June 30, 2023, 1,180,000 shares of common stock were issued upon the exercise of pre-funded warrants. Proceeds of the exercise to the Company were immaterial.

On November 4, 2021, the Company entered into an ATM or "at-the-market" Equity Offering Sales Agreement (the "Sales Agreement") with BofA Securities, Inc., as agent ("BofA"), pursuant to which the Company may offer and sell, from time to time through BofA, shares of the Company's common stock, having an aggregate offering price of up to $40.0 million. The offer and sale of the shares will be made pursuant to a shelf registration statement on Form S-3 and the related prospectus filed on December 11, 2020, and declared effective by the SEC on December 21, 2020, as supplemented by a prospectus supplement dated November 4, 2021. The Company has no obligation to sell any such shares under the Sales Agreement. Through June 30, 2023, no sales of common stock have been made pursuant to the Sales Agreement. As of March 20, 2023, the Company is subject to limitations on the amount of funds the Company can raise by selling shares of our common stock using our Form S-3, including sales under this ATM facility, to one-third of the aggregate market value of the shares of our common stock held by non-affiliates, or public float, due to the so-called "baby shelf" requirements set forth in the SEC general instructions of Form S-3. These restrictions will remain in place until such time as our public float exceeds $75 million.

(b) Stock-based compensation expense

Stock-based compensation expense is classified in the condensed statements of operations and comprehensive income (loss) as follows:

(in thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Research and development expenses	$ —	$ 1,051	$ 255	$2,315
General and administrative expenses	331	1,261	1,267	2,443
Total stock-based compensation expense	$ 331	$ 2,312	$ 1,522	$4,758

Total unrecognized compensation expense for all stock-based compensation plans was $1.6 million as of June 30, 2023. This expense is expected to be recognized over a weighted average remaining vesting period of 1.88 years.

The fair values of stock options granted are estimated using the Black-Scholes option pricing model with the following weighted average assumptions:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Expected volatility	87.37%	82.68%	86.77%	83.01%
Expected dividends	0%	0%	0%	0%
Expected terms (years)	5.27	5.73	5.60	5.96
Risk free rate	3.82%	2.77%	3.67%	2.22%

(c) Stock options

A summary of the Company's stock option activity and related information for the six months ended June 30, 2023 is as follows:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in Years)	Aggregate Intrinsic Value (in Thousands)
Outstanding at December 31, 2022	8,514,381	$ 4.89	8.32	$ —
Options granted	260,500	$ 0.70		
Options exercised	—	$ —		
Options cancelled/forfeited	(4,138,321)	$ 5.07		
Outstanding at June 30, 2023	4,636,560	$ 3.96	4.41	$ 11
Exercisable as of June 30, 2023	3,534,712	$ 4.51	3.01	$ —

There were no exercises of options during the six months ended June 30, 2023. During the six months ended June 30, 2022, 36,500 shares of common stock were issued upon exercise of options with an aggregate intrinsic value of $0.1 million. The weighted-average grant date fair value of options granted during the six months ended June 30, 2023 and June 30, 2022 was $0.51 and $1.47 per share, respectively.

(d) Restricted stock units

A summary of the Company's RSU activity and related information for the six months ended June 30, 2023 is as follows:

	Number of Shares	Weighted Average Grant Date Fair Value
Non-vested at December 31, 2022	378,500	$ 4.22
Restricted stock units granted	—	$ —
Restricted stock units vested	(180,000)	$ 4.18
Restricted stock units forfeited	(152,250)	$ 4.15
Non-vested at June 30, 2023	46,250	$ 4.59

(e) Employee stock purchase plan

The Company's 2020 ESPP was adopted by the Company's Board of Directors in March 2020 and approved by the Company's stockholders in May 2020. A total of 759,936 shares of common stock have been reserved for issuance under the 2020 ESPP.

Subject to share and dollar limits as described in the plan, the 2020 ESPP allows eligible employees to contribute, through payroll deductions, up to 15% of their earnings for the purchase of shares of the Company's common stock at the lower of 85% of the closing price of the Company's common stock on the first trading day of the offering period or 85% of the closing price of the Company's common stock on the last trading day of the offering period. There are two six-month offering periods during each fiscal year, ending on May 15 and November 15.

As of June 30, 2023 and December 31, 2022, employee contributions included in accounts payable and accrued liabilities in the accompanying condensed balance sheet were immaterial.

7. Net loss per share

The Company excluded the following potentially dilutive shares from diluted net loss per share as the effect would have been anti-dilutive for all periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Outstanding stock options	4,636,560	7,638,393	4,636,560	7,638,393
Restricted stock units	46,250	603,000	46,250	603,000
Shares issuable under 2020 ESPP	7,459	76,872	7,459	76,872
	4,690,269	8,318,265	4,690,269	8,318,265

8. Restructurings and impairment charges

November workforce reduction

On November 14, 2022, the Company announced a corporate restructuring as a result of the strategic decision to discontinue further development of NL-201. In conjunction with this decision, the Company's Board of Directors approved a restructuring plan that included a reduction of approximately 40% of the Company's workforce (the "November 2022 Reduction").

In connection with the November 2022 Reduction, the Company expects to incur aggregate restructuring charges consisting of severance payments, benefits, and other employee related costs of $1.7 million, of which $1.4 million was recognized during the fourth quarter of 2022. The remaining $0.3 million was incurred during the six months ended June 30, 2023, all of which is included in research and development expenses in the statement of operations and comprehensive income (loss). The Company expects to pay all remaining restructuring charges associated with the November 2022 Reduction by the end of the third quarter of 2023.

March workforce reduction

On March 6, 2023, the Company's Board of Directors approved a reduction in force of the Company's workforce by approximately 70% in connection with a re-prioritization of the Company's focus on seeking strategic alternatives to maximize stockholder value (the "March 2023 Restructuring Plan").

In connection with the March 2023 Restructuring Plan, the Company expects to incur additional aggregate restructuring charges consisting of severance payments, benefits, and other employee related costs of $1.8 million, all of which was incurred during the six months ended June 30, 2023. Of the $1.8 million of restructuring charges incurred during the six months ended June 30, 2023, $0.6 million is included in general and administrative expenses and $1.2 million is included in research and development expenses in the condensed statement of operations and comprehensive income (loss). The Company expects to pay all remaining restructuring charges associated with the March 2023 Restructuring Plan by the end of the first quarter of 2024.

A summary of the accrued liabilities activity recorded in connection with the November 2022 Reduction and March 2023 Restructuring Plan for the six months ended June 30, 2023 is as follows (in thousands):

	Accrued at December 31, 2022	Charges	Amounts Paid	Accrued at June 30, 2023
Employee severance, benefits, and related costs				
November 2022 Reduction	$ 1,041	$ 327	$ (1,058)	$ 310
March 2023 Restructuring Plan	$ —	$ 1,782	$ (1,218)	$ 564
Total	$ 1,041	$ 2,109	$ (2,276)	$ 874

Impairment charges

As a result of the March 2023 Restructuring Plan, the Company determined that sufficient indicators existed to trigger the performance of an interim long-lived asset impairment analysis as of March 31, 2023. In the first quarter of 2023, the Company tested the recoverability of its asset groups for property and equipment using entity-specific undiscounted cash flows. Based on these undiscounted cash flows, the Company concluded the undiscounted future cash flows expected to result from the eventual disposition of its long-lived assets were less than the carrying value of the asset groups. Therefore, the Company measured the long-lived asset impairment as the amount by which the carrying value of the asset group exceeds its fair value and recorded an impairment charge of $3.4 million. The fair value of the asset group reflect the Company's best estimate of what hypothetical market participants would use to determine a transaction price for the asset group which represents a Level 3 fair value measurement. During the three months ended June 30, 2023, the Company sold property and equipment previously assessed for impairment with a carrying value of $1.8 million, for a $0.2 million gain on sale, net. Of this total gain, $0.3 million of gain on sale is included in research and development expenses and a $0.1 million loss on sale included in general and administrative expenses in the condensed statement of operations and comprehensive income (loss).

9. Subsequent Events

Merger Agreement

On July 17, 2023, the Company, Merger Sub, and Neurogene entered into the Merger Agreement, pursuant to which, among other matters, and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly owned subsidiary of Neoleukin and the surviving corporation of the merger (the "Merger"). The Merger is expected to close in the fourth quarter of 2023, subject to approval by the Company's and Neurogene's stockholders, the effectiveness of a registration statement to be filed with the SEC to register the securities to be issued in connection with the Merger, and the satisfaction of customary closing conditions.

Holders of common stock of Neoleukin and pre-funded warrants exercisable for common stock of Neoleukin immediately prior to the Merger will be issued a contingent value right ("CVR"), at the closing of the Merger that will entitle them to receive payments in cash or shares of the surviving company (at the surviving company's election) through June 30, 2029 in the event that (a) certain legacy assets of Neoleukin are sold prior to or in the first year following the closing of the Merger, (b) there is a reduction of any lease obligations of Neoleukin, net of certain costs, and (c) the Company receives any amounts from the State of Washington in connection with a sales tax refund being submitted to the State of Washington. Holders of options to purchase stock of Neoleukin at the time of the closing who later exercise those options shall also be entitled to receive one CVR per share issued on exercise of such option, provided, however, that no payments of prior amounts paid to the holders of the CVRs shall be owing to such option holder upon exercise.

The Merger Agreement contains certain termination rights of each of Neoleukin and Neurogene. Upon termination of the Merger Agreement under specified circumstances, Neoleukin may be required to pay Neurogene a termination fee of $3.0 million and/or reimburse Neurogene's expenses up to a maximum of $1.0 million, and Neurogene may be required to pay Neoleukin a termination fee of $12.0 million and/or reimburse Neoleukin's expenses up to a maximum of $1.0 million.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Neurogene Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Neurogene Inc. (the Company) as of December 31, 2022 and 2021, the related statements of operations, changes in convertible preferred stock and stockholders' deficit and cash flows for each of the two years in the period ended December 31, 2022, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

The Company's Ability to Continue as a Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the financial statements, the Company has incurred and expects to continue to incur substantial losses and cash outflows from operations and has stated that substantial doubt exists about the Company's ability to continue as a going concern. Management's evaluation of the events and conditions and management's plans regarding these matters are also described in Note 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our audits in accordance with the standards of the PCAOB and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Accrued research and development expenses

Description of the Matter

As more fully described in Note 3 to the financial statements, the Company records accrued liabilities for estimated costs of research and development ("R&D") activities based upon the estimated cost of services provided but not yet invoiced. As of December 31, 2022, accrued clinical costs and other R&D costs were $1.8 million. The accrued costs included estimated clinical trial and other R&D costs incurred but not invoiced under certain significant R&D service agreements with organizations that conduct R&D activities on behalf of the Company ("Accrued R&D Costs"). The Company accrues for these costs based on several factors, such as information obtained from vendors and estimates of the work completed under the service agreements. Auditing the Company's accounting for Accrued R&D Costs was complex because the Company's analysis is dependent upon data obtained from external third-party service providers who often act as intermediaries to those performing the underlying services. The determination of the accrual when the Company has either not been invoiced or has not received information regarding actual costs incurred requires evaluation of the stage of completion of the services.

How We Addressed the Matter in Our Audit

To test the Accrued R&D Costs, our audit procedures included, among others, i) confirming the completeness of the terms and conditions of certain significant R&D service agreements directly with the vendor; ii) testing the completeness and accuracy of the Company's accrual models through verification of significant inputs, such as costs incurred and invoices paid, to the terms and conditions of the underlying agreements and information from the Company's internal personnel and vendors; iii) meeting with personnel outside of the accounting department to discuss the basis for assumptions used in estimating cost of services provided but not yet invoiced; and iv) performing a hindsight analysis of invoices received subsequent to the balance sheet date.

Valuation of common stock

Description of the Matter

As discussed in Note 3 and Note 12 to the financial statements, the Company accounts for stock options granted to employees and non-employees at fair value using Black-Scholes Option pricing model. The valuation of common stock, among other inputs, was used to determine the fair value measurement for stock-based awards granted. The Company's common stock was not publicly traded on the dates which the stock-based awards were granted and required management to estimate its value with the assistance of an unrelated third-party valuation firm using methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants, Audit and Accounting Practice Aid Series: Valuation of Privately Held Company Equity Securities Issued as Compensation. Auditing the Company's valuation of common stock was complex and required auditor's judgment due to significant assumptions which included, among others, discount for lack of marketability and probability weighting the likelihood of achieving a liquidity event for the holders of the Company's common stock. The Company recognized $1.3 million in stock-based compensation expense for the year ending December 31, 2022.

How We Addressed the Matter in Our Audit	To test the valuation of common stock, our audit procedures included, among others, assessing the competence of the third-party valuation firm and the valuation methodologies by considering the Company's equity structure, the proximity of sales of convertible preferred stock to investors in arm's length transactions, and possible exit scenarios used in estimating the fair value of the common stock. We also evaluated whether the calculations supporting the estimate were applied in accordance with acceptable approaches and mathematically accurate, evaluated the reasonableness of the discount for lack of marketability used in the valuation and performed sensitivity analyses of the significant assumptions to evaluate the change in the fair value resulting from changes in the assumptions. Internal valuation specialists assisted us in performing these procedures. In addition, we assessed the appropriateness of comparable companies used to determine multiples used in market approach estimates applied to Company financial data.

/s/ Ernst & Young LLP
We have served as the Company's auditor since 2019.

Stamford, Connecticut

August 18, 2023

Neurogene Inc.
Balance Sheets
(In Thousands, Except for Share Information)

	December 31, 2022	December 31, 2021
Assets		
Current Assets:		
Cash and cash equivalents	$ 82,021	$ 70,544
Prepaid expenses and other current assets	2,698	3,414
Total current assets	84,719	73,958
Property and equipment, net	20,115	22,577
Operating lease right-of-use assets	4,344	4,952
Finance lease right-of-use assets	87	—
Total assets	$ 109,265	$ 101,487
Liabilities, Convertible Preferred Stock and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 625	$ 5,630
Accrued expenses and other current liabilities	5,324	4,616
Operating lease liabilities, current	678	610
Finance lease liabilities, current	24	—
Total current liabilities	6,651	10,856
Operating lease liabilities, non-current	3,921	4,599
Finance lease liabilities, non-current	66	—
Other liabilities	—	—
Total liabilities	10,638	15,455
Commitments and contingencies (Note 8)		
Convertible preferred stock:		
Series A-1 Convertible Preferred stock, $0.0001 par value; 18,604,653, authorized, issued and outstanding as of December 31, 2022 and 2021, respectively (liquidation value of $40,000 at December 31, 2022)	34,414	34,414
Series A-2 Convertible Preferred stock, $0.0001 par value; 13,291,208 shares authorized, issued and outstanding as of December 31, 2022 and 2021, respectively (liquidation value of $28,675 at December 31, 2022)	28,675	28,675
Series B Convertible Preferred stock, $0.0001 par value; 88,114,739 shares authorized and 74,405,719 shares and 47,131,133 issued and outstanding as of December 31, 2022 and 2021, respectively (liquidation value of $181,550 at December 31, 2022)	181,277	114,818
Total convertible preferred stock	244,366	177,907
Stockholders' Deficit:		
Class A Common stock, $0.0001 par value; 126,000,000 shares authorized, 5,665,837 shares issued and outstanding as of December 31, 2022 and 104,572,147 shares authorized, 5,552,691 shares issued and outstanding as of December 31, 2021	1	1
Class B Common stock, $0.0001 par value; 120,010,600 and 79,026,994 shares authorized as of December 31, 2022 and 2021, respectively, and no shares issued and outstanding as of December 31, 2022 and 2021, respectively	—	—
Additional paid-in capital	5,097	3,772
Accumulated deficit	(150,837)	(95,648)
Total stockholders' deficit	(145,739)	(91,875)
Total liabilities, convertible preferred stock and stockholders' deficit	$ 109,265	$ 101,487

The accompanying notes are an integral part of these financial statements.

Neurogene Inc.
Statements of Operations
(In Thousands, Except Share Information)

	Year Ended December 31,	
	2022	2021
Operating expenses:		
Research and development	$ 47,505	$ 42,264
General and administrative	9,012	8,270
Total operating expenses	56,517	50,534
Loss from operations	(56,517)	(50,534)
Other income (expense):		
Interest income, net	1,337	17
Interest expense	(2)	—
Other Expense	(7)	—
Net loss	$ (55,189)	$ (50,517)
Per share information:		
Net loss per share of Class A and Class B common stock, basic and diluted	$ (10.58)	$ (12.47)
Weighted-average shares of Class A and Class B common stock outstanding, basic and diluted	5,218,694	4,051,550

The accompanying notes are an integral part of these financial statements.

Neurogene Inc.
Statements of Changes in Convertible Preferred Stock and Stockholders' Deficit
(In Thousands, Except Share Information)

	Convertible Preferred Stock						Stockholders' deficit						
	Series A-1 Convertible Preferred Stock		Series A-2 Convertible Preferred Stock		Series B Convertible Preferred Stock		Class A Common Stock		Class B Common Stock		Additional Paid- In Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount			
Balance- December 31, 2020	18,604,653	$34,414	13,291,208	$28,675	26,311,467	$ 64,042	4,945,768	$ 1	—	$ —	$ 2,589	$ (45,131)	$ (42,541)
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	896	—	896
Series B convertible preferred stock, net of $26 offering costs	—	—	—	—	20,819,666	50,776	—	—	—	—	—	—	—
Class A common stock issued upon exercise of stock options	—	—	—	—	—	—	606,923	—	—	—	287	—	287
Net loss	—	—	—	—	—	—	—	—	—	—	—	(50,517)	(50,517)
Balance- December 31, 2021	18,604,653	$34,414	13,291,208	$28,675	47,131,133	$ 114,818	5,552,691	$ 1	—	$ —	$ 3,772	$ (95,648)	$ (91,875)
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	1,252	—	1,252
Series B convertible preferred stock, net of $91 offering costs	—	—	—	—	27,274,586	66,459	—	—	—	—	—	—	—
Class A common stock issued upon exercise of stock options	—	—	—	—	—	—	113,146	—	—	—	73	—	73
Net loss	—	—	—	—	—	—	—	—	—	—	—	(55,189)	(55,189)
Balance- December 31, 2022	18,604,653	$34,414	13,291,208	$28,675	74,405,719	$ 181,277	5,665,837	$ 1	—	$ —	$ 5,097	$ (150,837)	$ (145,739)

The accompanying notes are an integral part of these financial statements.

Neurogene Inc.
Statements of Cash Flows
(In Thousands, Except Share Information)

	Year Ended December 31,	
	2022	2021
Cash flows used in operating activities:		
Net loss	$ (55,189)	$ (50,517)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	1,252	896
Depreciation and amortization of property and equipment	3,196	947
Non-cash operating lease expense	608	679
Amortization of finance lease right-of-use assets	4	—
Changes in assets and liabilities:		
Prepaid expenses and other current assets	716	(1,981)
Accounts payable	(3,607)	2,982
Accrued expenses and other current liabilities	806	1,264
Operating lease liabilities	(610)	(594)
Other liabilities	—	(76)
Net cash used in operating activities	(52,824)	(46,400)
Cash flows used in investing activities:		
Purchases of property and equipment	(2,230)	(18,369)
Net cash used in investing activities	(2,230)	(18,369)
Cash flows provided by financing activities:		
Proceeds from issuance of Series B convertible preferred stock, net of offering cost	66,459	50,776
Proceeds from the issuance of Class A common stock upon exercise of options	73	287
Principal payments on finance leases	(1)	—
Net cash provided by financing activities	66,531	51,063
Net increase (decrease) in cash and cash equivalents	11,477	(13,706)
Cash and cash equivalents at beginning of year	70,544	84,250
Cash and cash equivalents at end of year	$ 82,021	$ 70,544
Supplemental disclosure of non-cash investing and financing activities:		
Increase in operating lease right-of-use assets and operating lease liabilities resulting from contract modification	$ —	$ 1,043
Finance lease right of use asset and lease liability	$ 91	$ —
Fixed asset purchases and construction in process in accounts payable and accrued expense	$ —	$ 1,496
Supplemental cash flow information:		
Cash paid for interest	$ 2	$ —

The accompanying notes are an integral part of these financial statements.

NEUROGENE INC.
NOTES TO FINANCIAL STATEMENTS

1. Organization and Description of Business

Neurogene Inc. (the "Company") is a clinical stage biotechnology company that was incorporated as a limited liability company in Delaware on January 26, 2018 and converted into a corporation on July 3, 2018, and has a principal place of business in New York, NY. The Company was formed to harness the power of gene therapy, combined with its EXACT gene regulation technology, to turn today's complex, devastating neurological diseases into treatable conditions. The Company's first clinical-stage program to utilize the EXACT technology is NGN-401, which is under development for the treatment of Rett syndrome. In addition to NGN-401, Neurogene is also pursuing a conventional gene therapy program in an ongoing Phase 1/2 clinical trial of NGN-101 for the treatment of CLN5 Batten disease. Since beginning operations, the Company has devoted substantially all its efforts to research and development, recruiting management and technical staff, administration, and raising capital.

2. Risks and Uncertainties

The Company is subject to risks common to companies in the biotechnology industry, including, but not limited to, successful development of technology, obtaining additional funding, protection of proprietary technology, compliance with government regulations, risks of failure of pre-clinical studies, clinical studies and clinical trials, the need to obtain marketing approval for its drug candidates and its consumer products, fluctuations in operating results, economic pressure impacting therapeutic pricing, dependence on key personnel, risks associated with changes in technologies, development by competitors of technological innovations and the ability to transition from pilot scale manufacturing to large scale production.

Liquidity and Going Concern

Management expects to incur substantial and increasing losses in future periods as the Company advances its products through its clinical process and will rely on outside capital to fund its operations for the foreseeable future. The success of the Company is subject to certain risks and uncertainties including, among others: uncertainty of product development; competition in the Company's field of use; uncertainty of capital availability; uncertainty in the Company's ability to enter into agreements with collaborative partners; dependence on third parties; and dependence on key personnel. The Company has not generated positive cash flows from operations, and there are no assurances that the Company will be successful in obtaining an adequate level of financing for the development and commercialization of its product candidates.

The Company evaluated certain adverse conditions and events that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the accompanying financial statements were issued or available to be issued (the "issuance date"). Since its inception, the Company has funded its operations primarily with proceeds from the sale of preferred stock and has incurred significant recurring losses, including net losses of $55.2 million and $50.5 million for the years ended December 31, 2022 and 2021, respectively. In addition, the Company used cash in operations of $52.8 million and $46.4 million for the years ended December 31, 2022 and 2021, respectively, and had an accumulated deficit of $150.8 million as of December 31, 2022. The Company expects its available cash and cash equivalents on hand as of the issuance date will not be sufficient to fund its obligations as they become due for at least one year beyond the issuance date.

While the Company is seeking to secure additional outside capital as of the issuance date, management can provide no assurance such capital will be secured or on terms that are acceptable to the Company. Similarly, as disclosed in Notes 3 and 8, while the Company plans to consummate a reverse merger and concurrent private financing during the fourth quarter of 2023, management can provide no assurance the reverse merger and concurrent private financing will be consummated on terms that are acceptable to the Company, if at all.

In the event the Company is unable to secure additional outside capital or consummate the reverse merger and concurrent private financing, management will be required to seek other alternatives which may include, among others, a delay or termination of clinical trials or the development of its product candidates, temporary or permanent curtailment of the Company's operations, a sale of assets, or other alternatives with strategic or financial partners.

The accompanying financial statements do not include any adjustments that might result from the outcome of these uncertainties. Accordingly, the financial statements have been prepared on a basis that assumes the Company will continue as a going concern and which contemplates the realization of assets and satisfaction of liabilities and commitments in the ordinary course of business.

3. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP") and pursuant to the accounting and disclosure rules and regulations of the Securities and Exchange Commission ("SEC"), and reflect all adjustments consisting only of normal recurring adjustments of the Company, which are, in opinion of management, necessary for a fair presentation of the financial position as of December 31, 2022 and 2021, and the results of operations, and cash flows for the periods presented. Any reference in these notes to applicable guidance is meant to refer to GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASU") promulgated by the Financial Accounting Standards Board ("FASB").

Proposed Merger with Neoleukin Therapeutics, Inc.

On July 18, 2023, Neurogene entered into a Merger Agreement with Neoleukin Therapeutics, Inc. ("Neoleukin") and Merger Sub. Pursuant to the Merger Agreement, among other matters, and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly-owned subsidiary of Neoleukin, and Neoleukin being the surviving corporation of the merger, which will be renamed Neurogene Inc.

Subject to the terms and conditions of the Merger Agreement, at the closing of the merger, (a) each outstanding share of Neurogene common stock (including shares of Neurogene common stock issued upon conversion of Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing financing) will be converted into the right to receive a number of shares of Neoleukin common stock (after giving effect to the reverse stock split) equal to the exchange ratio set forth in the Merger Agreement; (b) each outstanding pre-funded warrant to purchase shares of Neurogene common stock will be converted into the right to receive a number of pre-funded warrants to purchase Neoleukin common stock equal to the exchange ratio set forth in the Merger Agreement; (c) each then outstanding Neurogene stock option that has not previously been exercised immediately prior to the effective time of the merger will be assumed by Neoleukin; and (d) each then outstanding Neurogene restricted stock unit immediately prior to the effective time of the merger will be assumed by Neoleukin.

Under the exchange ratio formula in the Merger Agreement, as of immediately after the merger, pre-merger Neurogene stockholders, including purchasers of Neurogene common stock and Neurogene pre-funded warrants in the Neurogene pre-closing financing, are currently estimated to own approximately 84% of the outstanding shares of capital stock of the combined company, and pre-merger stockholders of Neoleukin are currently estimated to own approximately 16% of the outstanding shares of capital stock of the combined company, subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being at least $66.0 million.

The Merger Agreement contains certain termination rights of each of Neoleukin and Neurogene. Upon termination of the Merger Agreement under specified circumstances, Neoleukin may be required to pay Neurogene a termination fee of $3.04 million and/or reimburse Neurogene's expenses up to a maximum of $1.0 million, and Neurogene may be required to pay Neoleukin a termination fee of $12.0 million and/or reimburse Neoleukin's expenses up to a maximum of $1.0 million.

Use of Estimates

The preparation of the financial statements in accordance with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. In preparing these financial statements, management used significant estimates in the following areas, among others: recoverability of our net deferred tax assets and related valuation allowance, useful lives and recoverability of property and equipment, determining the Incremental Borrowing Rate ("IBR") for calculating lease liabilities and related Right-Of-Use ("ROU") assets and finance lease assets , the value attributed to employee stock options and other stock-based awards, and valuation of Common Stock. On an ongoing basis, the Company reviews its estimates to ensure that they appropriately reflect changes in the business or as new information becomes available. Actual results may differ from these estimates.

Segment Information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. The Company views and manages its operations as a single operating segment, which is the reportable segment.

Cash and Cash Equivalents

The Company considers all highly-liquid investments purchased with original maturities of 90 days or less at time of purchase to be cash equivalents. Cash and cash equivalents include cash held in banks and are stated at fair value.

Concentrations of Credit Risk

Financial instruments that subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents. The Company's cash and cash equivalent accounts, at times, may exceed federally insured limits. As of December 31, 2022 the Company had $81.8 million in excess of the federally insured limits. The Company places its cash in a financial institution that management believes to be of high credit quality.

Fair Value of Financial Instruments

Management believes that the carrying amounts of the Company's financial instruments, including cash, prepaids and other current assets, accrued expenses, and accounts payable, approximate fair value due to the short-term nature of these instruments. Certain assets and liabilities are carried at fair value. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- ***Level 1*** – Unadjusted quoted prices in active markets that are accessible to the reporting entity at the measurement date for identical assets and liabilities.

- ***Level 2*** – Inputs other than quoted prices in active markets for identical assets and liabilities that are observable either directly or indirectly for substantially the full term of the asset or liability. Level 2 inputs include the following:
  - quoted prices for similar assets and liabilities in active markets.
  - quoted prices for identical or similar assets or liabilities in markets that are not active.
  - observable inputs other than quoted prices that are used in the valuation of the asset or liabilities (e.g., interest rate and yield curve quotes at commonly quoted intervals)
  - inputs that are derived principally from or corroborated by observable market data by correlation or other means.
- ***Level 3*** – Unobservable inputs for the assets or liability (i.e., supported by little or no market activity). Level 3 inputs include management's own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk).

Money market funds, consisting entirely of investments in U.S. treasury securities, are Level 1 financial instruments as they are valued at the closing price reported by the fund sponsor from an actively traded exchange.

Property and Equipment

Property and equipment costs are stated at cost, net of accumulated depreciation and amortization. The cost of property and equipment costs are depreciated on the straight-line method over the following estimated useful lives:

Type	Estimated useful life
Lab equipment	5 years
Manufacturing equipment	10 years
Leasehold improvements	Lesser of the remaining economic life of the asset or the lease-term
Furniture and fixtures	5 years
Software	3 years

Leasehold improvements are amortized over the shorter of the estimated useful life of the assets or the remaining lease term. Major additions and betterments are capitalized; maintenance and repairs, which do not improve or extend the life of the respective assets, are charged to operating expenses as incurred. Depreciation has been calculated using the straight-line method over their estimated useful lives once the asset is placed in service. Costs of software obtained for internal use are capitalized in accordance with ASC 350 and are recognized on a straight-line basis over the useful life. Software costs that do not meet the capitalization criteria, including costs incurred in the maintenance and minor upgrade and enhancement of software without additional functionality, are expensed as incurred. No depreciation has been calculated on work in progress assets.

Capitalized Software Development Costs

Software costs that meet the cloud computing hosting arrangements criteria are capitalized in accordance with ASC 350 "*Intangibles – Goodwill and Other"* and are recognized on a straight-line basis over the term of the arrangement, plus reasonably certain renewals. Capitalized eligible implementation costs related to cloud computing service contracts are included in prepaid expenses and other current assets were $0.4 million and $0.5 million as of December 31, 2022, and 2021, respectively. Expense recognized related to the implementation costs capitalized was $0.2 million and $0.04 million for the year ended December 31, 2022 and 2021, respectively.

Impairment of Long-Lived Assets

Management assesses the carrying value of property and equipment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. If there is indication of impairment, management prepares an estimate of future undiscounted cash flows expected to result from the use of the asset and its eventual disposition. If these cash flows are less than the carrying amount of the asset, an impairment loss is recognized to write down the asset to its estimated fair value. For the years ended December 31, 2022 and 2021, the Company did not recognize any impairments for its long-lived assets.

Leases

The Company adopted ASU 2016-02, Leases, as of January 1, 2021. The Company determines if an arrangement is a lease at inception. Operating and finance leases are presented in the Company's balance sheet as right-of-use assets from leases, current lease liabilities and long-term lease liabilities.

Operating and finance lease liabilities and their corresponding right-of-use assets are recorded based on the present value of lease payments over the expected remaining lease term. Certain adjustments to the right-of-use asset may be required for items such as prepaid or accrued rent. Certain of the Company's lease agreements at the adoption date contain renewal options. The Company does not recognize right-of-use assets or lease liabilities for renewal periods upon the adoption date or a future lease inception date unless it is determined that the Company is reasonably certain of renewing the lease at inception or when a triggering event occurs. The Company also made an accounting policy election to utilize the short-term lease exemption, whereby leases with a term of 12 months or less will not follow the recognition and measurement requirements of the new standard.

The interest rate implicit in the Company's leases is typically not readily determinable. In calculating the present value of the lease payments, the Company utilizes its incremental borrowing rate, which reflects the fixed rate at which the Company could borrow on a collateralized basis the amount of the lease payments in the same currency, for a similar term, in a similar economic environment. The Company estimated the incremental borrowing rate based on synthetic credit rating models including fundamental analysis, as well as the long-term borrowing costs of comparable companies in the biotechnology industry.

The Company's leases do not contain any residual value guarantees. Since the Company elected to account for each lease component and its associated non-lease components as a single combined lease component, all contract consideration was allocated to the combined lease component. Some of the Company's lease agreements contain rent escalation clauses. For operating leases, the Company recognizes the minimum rental expense on a straight-line basis based on the fixed components of a lease arrangement. The Company will amortize this expense over the term of the lease beginning with the lease commencement date. Certain lease agreements contain variable payments, which are expensed as incurred and not included in the lease right-of-use assets and liabilities. These amounts include payments for maintenance and utilities. Variable lease components represent amounts that are not fixed in nature and are not tied to an index or rate and are recognized as incurred.

Prior to the adoption of ASC 842, the Company accounted for leases under topic ASC 840 and categorizes leases at their inception as either operating or capital. In the ordinary course of business, the Company enters into non-cancelable operating leases for office space. The Company recognizes lease expense on a straight-line basis and lease incentives are accounted for as a reduction of rent expense over the term of the agreement. The difference between cash rent payments and rent expense is recorded as a deferred rent liability, with the amount expected to be amortized within the next twelve months classified as a current liability.

Research and Development

Research and development costs are expensed as incurred. These costs include, but are not limited to, employee-related expenses, including salaries, benefits and travel of the Company's research and development

personnel, facilities, supplies, rent, insurance, stock-based compensation, depreciation and external expenses incurred under agreements with contract research organizations and investigative sites that conduct preclinical studies and manufacture the drug product for the preclinical activities and other costs associated with preclinical activities.

Before a compound receives regulatory approval, the Company records upfront and milestone payments to third parties under licensing arrangements as expense provided that there is no alternative future use of the rights in other research and developments projects.

Non-refundable prepayments for research and development costs that are paid in advance of performance are capitalized as a prepaid expense and amortized over the service period as the services are provided. Costs for certain development activities, such as outside research programs funded by the Company, are recognized based on an evaluation of the progress to completion of specific tasks with respect to their actual costs incurred. Payments for these activities are based on the terms of the individual arrangements, which may differ from the pattern of costs incurred, and are reflected in the financial statements as prepaid or accrued research and development expense as applicable. There can be judgment involved in measuring the research and development expenses to be recognized in a particular period. In some cases, expense is recorded using an underlying assumption of the progress to completion of specific activities. For example, costs may be recognized based on the passage of time for activities that span reporting periods. If the provision of services is not linear then this assumption could impact the amount of expense recognized. The level of judgment varies based on the nature of the services being performed and the underlying support obtained. For some activities, such as for certain clinical trials, expense is recorded based on information obtained from vendors as an intermediary to those performing the underlying services, such as contract research organizations. These estimates are inherently more judgmental since the quality and availability of the underlying data may vary. We do not need to make significant estimates where costs incurred are supported by invoices or reports of costs incurred are obtained from a vendor that is directly performing the underlying services, such as a consultant or contract manufacturing organization.

In-process research and development, or IPR&D, that is acquired through licensing arrangements and accounted for as asset acquisitions are expensed immediately and within research and development expenses if the IPR&D has no alternative future use.

General and Administrative

General and administrative expenses consist primarily of personnel expenses, including salaries, benefits and stock-based compensation expense, for employees and consultants in executive, finance and accounting, legal, operations support, information technology and human resource functions. General and administrative expenses also include corporate facility costs not otherwise included in research and development expense, including rent, utilities, depreciation and maintenance, as well as legal fees related to intellectual property and corporate matters and fees for accounting and consulting services.

Advertising Costs

All advertising costs are expensed as incurred and included in general and administrative expenses. Advertising expenses incurred by the Company were approximately $0.01 million and $0.03 million for the years ended December 31, 2022 and 2021, respectively.

Stock-Based Compensation

Stock Options

The Company accounts for stock options granted to employees and non-employees at fair value, which is measured using the Black-Scholes Option pricing model. The fair value measurement date for employee awards

is the date of grant. The Company recognizes stock-based compensation expense over the requisite service period of the individual grant, generally equal to the vesting period and uses the straight-line method to recognize stock-based compensation.

The Company's policy is to account for forfeitures of awards when they occur in accordance with ASC 718, *Compensation – Stock Compensation*. The Company reverses compensation cost previously recognized, in the period the award is forfeited, for an award that is forfeited before completion of the requisite service period.

The Company utilizes the Black-Scholes option-pricing model, which incorporates assumptions and estimates to value options granted. Estimates and assumptions impacting the fair value measurement include the fair value per share of the underlying stock issuable upon exercise of the options, expected life of the options, risk-free interest rate, expected dividend yield and expected volatility from peer public companies of the price of the underlying stock.

As the Company's common stock has not been publicly traded, the Company periodically estimated the fair value of the Company's common stock considering, among other things, contemporaneous valuations of its common stock prepared by an unrelated third-party valuation firm in accordance with the guidance provided by the American Institute of Certified Public Accountants 2013 Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. The expected life of the stock options in years is estimated using the "simplified method," as prescribed in SEC's Staff Accounting Bulletin (SAB) No. 107, as the Company has no historical information from which to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior for its stock option grants. The simplified method is the midpoint between the vesting period and the contractual term of the option. For stock price volatility, the Company uses comparable public companies as a basis for its expected volatility to calculate the fair value of option grants. The risk-free rate is based on the U.S. Treasury yield curve commensurate with the expected life of the option. The expected dividend yield is zero as the Company has no history of paying dividends and no plans to do so in the near term.

Restricted Stock Awards

The Company measures the compensation cost with respect to restricted stock awards (RSA) issued to employees based upon the estimated fair value as of the stock determined using a contemporaneous valuation of its common stock, which is recognized as an expense over the period during which an employee is required to provide services in exchange for the awards.

The Company classified stock-based compensation expense and restricted stock awards in its statement of operations in the same manner of the award recipient's payroll costs.

Income Taxes

The Company accounts for income taxes in accordance with ASC 740, *Income Taxes*, which prescribes the use of the liability method whereby deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. A valuation allowance is provided to reduce the net deferred tax assets to a level which, more likely than not, will be realized.

The Company assesses its income tax positions and records tax benefits based upon management's evaluation of the facts, circumstances, and information available at the reporting date. For those tax positions where it is more likely than not that a tax benefit will be sustained, the Company records the amount of tax benefit with a greater than 50 percent likelihood of being realized upon ultimate settlement with a taxing authority having full knowledge of all relevant information. For those income tax positions for which it is not more likely than not that a tax benefit will be sustained, no tax benefit is recognized in the financial statements. Potential interest and penalties associated with such uncertain tax positions is recorded as a component of income tax expense.

Net Loss Per Share Attributable to Common Stockholders

Basic net loss per share attributable to Class A and Class B common stock is computed by dividing net loss by the weighted-average number of shares of Class A and Class B common stock outstanding during each period. The weighted-average number of shares of Class A and Class B common stock outstanding used in the basic net loss per share calculation does not include unvested restricted stock awards as these instruments are considered contingently issuable shares until they vest. Diluted net loss per share of Class A and Class B common stock includes the effect, if any, from the potential exercise or conversion of securities, such as convertible preferred stock and stock options, which would result in the issuance of incremental shares of Class A or Class B common stock. For diluted net loss per share, the weighted-average number of shares of Class A and Class B common stock is the same for basic net loss per share due to the fact that when a net loss exists, dilutive securities are not included in the calculation as the impact is anti-dilutive.

The Company's convertible preferred stock and unvested restricted stock entitles the holder to participate in dividends and earnings of the Company, and, if the Company were to recognize net income, it would have to use the two-class method to calculate earnings per share. The two-class method is not applicable during periods with a net loss, as the holders of the convertible preferred stock and unvested restricted stock have no obligation to fund losses.

The following potentially dilutive securities have been excluded from the computation of diluted weighted-average shares of Class A and Class B common stock outstanding, as they would be anti-dilutive:

	December 31,	
	2022	2021
Series A-1 convertible preferred stock	18,604,653	18,604,653
Series A-2 convertible preferred stock	13,291,208	13,291,208
Series B convertible preferred stock	74,405,719	47,131,133
Unvested restricted stock awards	88,542	715,449
Stock options	6,198,849	6,203,580
	112,588,971	85,946,023

Recently Issued Accounting Standards

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies that the Company adopts as of the specified effective date. Unless otherwise discussed below, the Company does not believe that the adoption of recently issued standards have or may have a material impact on our financial statements or disclosures.

Recently Issued Accounting Pronouncements Not Yet Adopted

In August 2020, the FASB issued ASU 2020-06, *Debt-Debt with Conversion and Other Options* (Subtopic 470-20) and Derivatives and Hedging-Contracts in Entity's Own Equity (Subtopic 815-40): *Accounting for Convertible Instruments and Contracts in an Entity's Own Equity*. This standard amends the guidance on convertible instruments and the derivatives scope exception for contracts in an entity's own equity and improves and amends the related earnings per share EPS guidance for both subtopics. This standard will be effective for annual reporting periods beginning after December 15, 2023 and interim periods within those annual periods, and early adoption is permitted in annual reporting periods ending after December 15, 2020. The Company is currently evaluating the impact of this standard on the Company's financial statements and related disclosures but does not expect the adoption of ASU 2020-06 to be material.

Recently Adopted Accounting Pronouncements

The Company adopted ASU 2016-02, Leases ("ASU 2016-02"), as amended, on January 1, 2021, which supersedes the prior leasing guidance and upon adoption, requires lessees to recognize right-of-use assets and lease liabilities on the balance sheet for all leases with terms longer than 12 months. The Company adopted the new guidance using the modified retrospective transition approach by applying the new standard to all leases existing at the date of initial application and not restating comparative periods. Leases are classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. Upon the adoption of the guidance, operating leases were capitalized on the balance sheet at the present value of lease payments. The balance sheet amount recorded for existing leases at the date of adoption of ASU 2016-02 was calculated using an estimate of the Company's incremental borrowing rate. In transition to ASC 842, the Company utilized the remaining lease term of its leases in determining the appropriate incremental borrowing rates.

In adopting ASU 2016-02, the Company elected the available package of practical expedients which allows the Company to not reassess previous accounting conclusions around whether arrangements are or contain leases, the classification of leases, and the treatment of initial direct costs. Upon adoption, the Company recognized total right-of-use assets of $4.6 million, with corresponding liabilities of $4.8 million on the 2021 balance sheet, including the reclassification of $0.2 million from deferred rent to a reduction in the right-of-use assets. The adoption of the standard did not have a material effect on the Company's statements of operations or statements of cash flows.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses*, which requires financial assets measured at amortized cost basis to be presented at the net amount expected to be collected. This standard is effective for fiscal years beginning after December 15, 2022 and early adoption is permitted. The impact on the Company's financial statements is not expected to be significant.

4. Fair Value of Financial Instruments

As of December 31, 2022 and December 31, 2021, financial assets measured at fair value on a recurring basis are categorized in the table below based upon the lowest level of significant input to the valuations:

	Fair value measurement at reporting date using		
(in thousands)	**Quoted prices in active markets for identical assets (Level 1)**	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**
December 31, 2022:			
Assets:			
Money market funds	$ 78,749	$ —	$ —
December 31, 2021:			
Assets:			
Money market funds	$ 68,414	$ —	$ —

Money market funds are cash equivalents and are included in cash and cash equivalents in the balance sheet as of December 31, 2022 and 2021.

5. Prepaid expenses and other current assets

Prepaid expenses and other assets consist of the following:

(in thousands)	December 31, 2022	2021
Refunds and other receivables	$ 990	$ 790
Prepaid expense	1,078	1,913
Other current assets	630	711
Total prepaid and other current assets	$2,698	$3,414

6. Property and Equipment, Net

Property and equipment consist of the following:

(in thousands)	December 31, 2022	2021
Lab equipment	$ 3,088	$ 2,649
Manufacturing equipment	5,955	3,357
Leasehold improvements	15,298	15,285
Software	289	—
Construction in progress	252	2,857
Total property and equipment, cost	24,882	24,148
Less accumulated depreciation and amortization	(4,767)	(1,571)
Property and equipment, net	$20,115	$22,577

Depreciation and amortization expense for the years ended December 31, 2022 and December 31, 2021 was approximately $3.2 million and $0.9 million, respectively.

7. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following:

(in thousands)	December 31, 2022	2021
Compensation and related benefits	$3,357	$3,015
Research and development	1,800	1,255
Payroll liability	—	79
Other	167	267
Total accrued expenses and other current liabilities	$5,324	$4,616

8. Commitments and Contingencies

Finance Leases

During the year ended December 31, 2022, the Company leased information technology (“IT”) equipment and copiers for periods of 36 months and 63 months respectively. The IT equipment were classified as finance leases due to the existence of bargain purchase options in the lease agreements, and the copiers were classified as finance leases as the lease periods represented a major portion of the economic life of those assets. In connections with these leases, the Company recorded finance lease right-of-use assets and finance lease liabilities of approximately $91.

Operating Leases

New York Headquarters Lease

In September 2019, the Company commenced a sub-lease of office space for the corporate headquarters in New York, New York with a term expiring in June 2023. In connection with the lease, the Company established an irrevocable letter of credit for approximately $0.4 million. Monthly lease payments were approximately $0.04 million.

In July 2021, the sublessor was released from the original lease by the landlord, and the Company attorned to the landlord the executory terms and provisions of the sub-lease. In February 2022, the Company entered into an extension of the New York office lease (retroactive to December 2021) through June 2026, with new monthly lease payments ranging from approximately $0.03 million to $0.04 million. The Company accounted for the amendment as a contract modification, and accordingly, recorded an additional operating right-of-use asset of approximately $1.0 million and an additional operating lease liability of approximately $1.0 million.

Houston Lease

In August 2019, the Company entered into an agreement to lease approximately 26,905 square feet in Houston, Texas to build a manufacturing facility and office with a term expiring in August 2029. The Company has the option to renew the lease term for two additional five-year terms. The renewal periods were not included the lease term for purposes of determining the lease liability or right-of-use asset. Monthly rent payments were approximately $0.03 million. In connection with the lease, the Company paid a security deposit of approximately $0.04 million and prepaid rent of approximately $0.04 million.

In September 2020, the Company amended the lease agreement to further increase the rentable space to 42,342 square feet. The commencement date of the expansion space lease was January 1, 2021 and the monthly rent payments increased to a range of approximately $0.05 million to $0.06 million.

Supplemental lease expense related to leases for the years ended December 31, 2022 and 2021 was as follows (in thousands):

Lease cost (in thousands)	**Years Ended December 31**	
	2022	**2021**
Operating lease cost	$1,037	$1,059
Finance lease cost		
Amortization of finance leases	4	—
Interest on finance lease liabilities	2	—
Variable lease cost	196	192
Short-term lease cost	74	25
Total lease cost	$1,313	$1,276

The following table summarizes the maturity of the Company's operating and finance lease liabilities on an undiscounted cash flow basis and a reconciliation to the operating and finance lease liabilities recognized on the Company's balance sheet as of December 31, 2022:

Maturity of operating lease liabilities (in thousands)	
2023	1,051
2024	1,081
2025	1,119
2026	866
2027	677
2028	677
2029	397
Total lease payments	$ 5,868
Less: interest	(1,269)
Total operating lease liabilities	$ 4,599

Maturity of finance lease liabilities (in thousands)	
2023	33
2024	33
2025	30
2026	6
2027	6
2028	1
Total lease payments	$109
Less: interest	(19)
Total finance lease liabilities	$ 90

Supplemental balance sheet information related to leases as of December 31, 2022 and 2021 was as follows:

Leases (in thousands)	December 31, 2022	December 31, 2021
Operating right-of-use assets	$4,344	$4,952
Operating current lease liabilities	678	610
Operating noncurrent lease liabilities	3,921	4,599
Total operating lease liabilities	$4,599	$5,209
Finance right-of-use assets	$ 87	$ —
Finance current lease liabilities	24	—
Finance noncurrent lease liabilities	66	—
Total finance lease liabilities	$ 90	$ —

Other information	December 31, 2022	December 31, 2021
Cash paid for amounts included in measurement of operating lease liabilities (in thousands)	$1,039	$ 980
Cash paid for amounts included in measurement of finance lease liabilities (in thousands)	$ 3	$ —
Weighted-average remaining lease term - operating leases (in years)	5.72	6.71
Weighted-average remaining lease term - finance lease (in years)	3.47	—
Weighted-average discount rate - operating leases	8.86%	8.84%
Weighted-average discount rate - finance lease	11.45%	— %

Employment Agreements

The Company entered into employment agreements with key personnel providing for compensation and severance in certain circumstances, as defined in the respective employment agreements.

Other Research and Development Arrangements

The Company enters into agreements with contract research organizations ("CROs") to assist in the performance of research and development activities. Expenditures to CROs will represent a significant cost in clinical development for the Company.

Litigation and Legal Proceedings

The Company is subject to litigation and other claims that arise in the ordinary course of business. While the ultimate result of outstanding legal matters cannot presently be determined, the Company does not expect that the ultimate disposition will have a material adverse effect on its results of operations or financial condition. However, legal matters are inherently unpredictable and subject to significant uncertainties, some of which are beyond the Company's control. As such, there can be no assurance that the final outcome of any particular legal matter will not have a material adverse effect on the Company's financial condition and results of operations.

Pre-Merger Financing

Concurrently with the execution of the Merger Agreement, and in order to provide Neurogene with additional capital for its development programs prior to the closing of the merger, certain new and current investors have agreed to purchase an aggregate of approximately 38,177,770 shares of common stock of Neurogene and pre-funded warrants to acquire approximately 16,421,271 of Neurogene shares of common stock for the aggregate amount of approximately $95.0 million in the Neurogene pre-closing financing. In connection with the Neurogene pre-closing financing, Neurogene will amend its charter to increase the authorized number of shares of common stock in order to permit issuance of the shares and the shares issuable upon exercise of the pre-funded warrants purchased in the Neurogene pre-closing financing. The board of directors of both Neoleukin and Neurogene have approved the proposed transaction. Completion of the transaction, which is expected by the fourth quarter of 2023, is subject to approval of the merger by Neoleukin's and Neurogene's stockholders and the satisfaction or waiver of the closing conditions of the merger and certain other customary closing conditions.

9. License Agreements

License Agreement with The University of North Carolina

In May 2019, Neurogene entered into an Exclusive License Agreement with the University of North Carolina at Chapel Hill ("UNC") to obtain an exclusive, worldwide, royalty bearing license, with the right to

grant sublicenses under certain patents to make, use, or sell products covered by such patents for prevention or treatment of disease or medical or genetic conditions, including CLN5 Batten disease or other diseases from dysfunction of the CLN5 gene. The Company is obligated to pay UNC up to $1.7 million in sales-related milestones for licensed products based on annual sales of the licensed product in excess of defined thresholds and low single-digit percentage royalties on net sales of licensed product for as long as there is a valid patent claim under the patent rights. Neurogene is also required to reimburse any patent expenses, as well as pay a nonrefundable annual maintenance fee which, when royalties become due and payable, will be creditable against such royalties. The annual license fee was $4,000 for each of the years ended December 31, 2022 and 2021.

License Agreement with The University of Edinburgh

In January 2020, Neurogene entered into an Option Agreement (the "Edinburgh Option Agreement") with the University Court of the University of Edinburgh ("University of Edinburgh") for an option to license certain patents covering the EXACT technology (the "Licensed Technology"). To secure the option, Neurogene was solely required to pay the costs associated with the filing, preparing, prosecution and maintenance of the patents covering the Licensed Technology during the option period. Such expenses were immaterial for the year ended December 31, 2020. No other payments were payable under the Edinburgh Option Agreement. Neurogene subsequently exercised the option under the Edinburgh Option Agreement and then entered into the Master Collaboration Agreement ("MCA") discussed below, and which superseded the Edinburgh Option Agreement.

In December 2020, University of Edinburgh and Neurogene entered into the MCA. Under the MCA, Neurogene and the University of Edinburgh agreed to collaborate on certain research and development projects ("Projects") and Neurogene agreed to provide funding for such Projects for a 40-month initial term, which term may be extended by mutual agreement. In exchange for such funding, the University of Edinburgh granted Neurogene the option to exclusively license any intellectual property arising from such Projects. If Neurogene exercises an exclusive option for a particular Project, Neurogene will enter into a separate exclusive license agreement on its own terms with the University of Edinburgh. Under the MCA, Neurogene is obligated to pay semi-annual installment payments relating to funding of costs for personnel and lab consumables for the 40-month period. Either party may terminate the MCA for convenience upon 90 days' notice. If Neurogene terminates the MCA, it would be responsible for all non-cancellable costs and commitments related to any particular Project and any and all funding costs for any person working on such Project. The expense recorded for each of the years ended December 31, 2022 and 2021 was $1.1 million.

In March 2022, Neurogene exercised its option through the collaboration under the MCA, and entered into a License Agreement (the "March 2022 Edinburgh License Agreement") with University of Edinburgh, pursuant to which Neurogene licensed certain patents and know-how related to the EXACT technology and optimized MECP2 cassettes on an exclusive basis. Under the March 2022 Edinburgh License Agreement, Neurogene obtained an exclusive, worldwide license to the licensed patents to develop, manufacture, supply, sell, and commercialize any products that utilize the licensed patents (the "Licensed Products") in exchange for low single-digit percentage royalties on future commercial net sales of the Licensed Products. Royalties are payable on a Licensed Product-by-Licensed Product and country-by-country basis until the latest of the expiration of the last licensed patent covering such Licensed Product in the country where the Licensed Product is sold, or, if no licensed patent exists or has expired in such country, then ten years from first commercial sale of such Licensed Product in such country. In connection with the license, Neurogene is also obligated to pay the University of Edinburgh up to $5.25 million in regulatory-related milestones and up to $25 million in sales-related milestones based on annual net sales of Licensed Products in excess of defined thresholds.

License Agreement with the University of North Carolina and University of Pennsylvania

In July 2020, the Company entered into an exclusive license agreement with the University of North Carolina and University of Pennsylvania, or the Universities, to further develop and commercialize the licensed technology for the Optimized GALC Genes and Expression Cassettes. The Company also has the right to sublicense the technology. The Company made an upfront payment to the Universities of $0.5 million that was immediately expensed within research and development expenses as the license has no alternative future use. On an on-going basis, the Company is obligated to pay for future patent costs incurred, and such costs were not material for the years ended December 31, 2022 and 2021. During the year ended December 31, 2022, the Company paid the University of North Carolina a $0.5 million milestone payment after receipt of the Rare Pediatric Disease Designation of NGN-201 from the FDA for Krabbe disease. An annual license maintenance fee is also payable commencing on the first anniversary of the effective date. This amount of the license fee was approximately $0.02 million for each of the years ended December 31, 2022 and 2021.

License Agreement with Virovek

In September 2020, Neurogene entered into a Non-Exclusive License Agreement with Virovek, Inc., pursuant to which Neurogene has a license to use certain patents and know-how on a non-exclusive basis related to Neurogene's baculovirus ("baculo") process in exchange for low single-digit percentage royalties on future commercial net sales of each product using the baculo process, development milestone payments of up to $0.2 million in the aggregate, and a nonrefundable annual license fee. The license fee expense for each of the years ended December 31, 2022 and 2021 was $0.05 million.

10. Convertible Preferred Stock

Convertible Preferred Stock

In February 2019, the Company entered into the Series A preferred stock purchase agreement, or Series A-1 SPA. The terms of the Series A-1 SPA included an obligation of the investors to purchase 13,291,208 shares of Series A-2 authorized to be issued to the purchasers at price $2.15 per share upon the satisfaction of certain milestones, as defined in the A-1 SPA, in connection with the planning and construction of the Company's manufacturing facility. Additionally, the A-1 SPA provided that at any time after the initial closing, but prior to the milestone closing, the investors may elect to purchase the shares. The Company concluded that the future tranche right held by the Series A-1 investors were liability classified freestanding financial instruments as the future tranche rights were separable and detachable from the underlying Series A-1 shares. In March 2020, the Company amended the A-1 SPA and issued 6,645,599 shares of A-2 Preferred Stock at $2.15 per share and the remaining half of the original milestone shares could be sold upon commencement of a toxicology study for the Company's CLN5 product candidate. In October 2020, the Company amended the future milestone tranche for a second time and removed the achievement of any milestone and sold the remaining 6,645,609 of preferred shares associated with the future tranche right at a price of $2.15 per share. The Company recognized aggregate proceeds of approximately $28.7 million during the year ended December 31, 2020 in connection with the sale of 13,291,208 shares of Series A-2 stock.

On December 15, 2020, the Company entered into the Series B preferred stock purchase agreement, or B SPA. As part of the initial closing, the purchasers agreed to purchase up to 28,278,680 shares of Series B at $2.44 per share, and an additional 18,852,453 shares of Series B preferred stock upon the filing of an Investigational New Drug Application or Clinical Trial Application for the Company's CLN5 program (the "Milestone Closing"). At any time after the initial closing, and prior to the Milestone Closing, the Series B purchasers may elect to purchase the additional shares. The Company concluded that the additional B shares to be issued at the option of the B investors did not meet the definition of a freestanding financial instrument as the rights were not legally detachable from the underlying B shares. The future tranche right, when evaluated as an embedded derivative, did not require bifurcation from the B shares. The Company issued 26,311,467 shares in December 2020, 1,967,213 shares in January 2021, and 18,852,453 shares in September 2021 and the Company received net proceeds of approximately $64.0 million in 2020 and $50.8 million in 2021.

On March 2, 2022 (the “Series B Extension”), the Company entered into the Series B Preferred Stock Purchase Agreement (the “2022 SPA”) which provided for the purchase of 27,274,586 shares of Series B Preferred Stock, at $2.44/share (the “Series B Original Issue Price” or “Purchase Price”) for net proceeds of approximately $66.5 million, of which the Company received such funds from March 2022 through June 2022.

The Series A-1, A-2 and B preferred stock (collectively, “Preferred Stock”) have the followings rights and privileges:

Dividends

The holders of Preferred Stock are entitled to receive non-cumulative dividends that shall accrue at the rate of $0.18/share per year, payable only when and if declared by the Board. The Company shall not declare, pay, or set aside any dividends on shares of any class of Common Stock (as defined below) unless the holders of the Preferred Stock shall first receive dividends on each outstanding share of Preferred Stock in the amount of the accrued dividends unpaid as of such date. As of December 31, 2022 and 2021, respectively, no dividends have been declared.

Liquidation

In the event of any liquidation, dissolution, or winding-up of the Company, which would include the sale of the Company, the Preferred Stock is senior to Common Stock. The Preferred shareholders would be entitled to preferential payment in the amount per share equal to the greater of (i) the original issue price and accrued dividends declared and unpaid or (ii) the amount that would be due had all Preferred Stock been converted to Common Stock immediately prior to a deemed liquidation event. Upon payment of the preferred liquidation preference payments, the holders of Series A-1 and Common Stock participate on a pro-rata basis until the A-1 stockholders have received a liquidation preference amount of $5.38 per share of Series A-1. Any remaining distribution thereafter are distributed to holders of Common Stock.

Voting

The preferred stockholders are entitled to the number of votes equal to the number of Class A common stock into which the shares of Preferred Stock Series A and B held by each holder are then convertible.

Conversion

Each share of Preferred Stock is convertible at the option of the holder, at any time and from time to time, and without the payment of additional consideration by the holder. The class of Common Stock each share of Preferred Stock is convertible is at the option of the holder. The number of Class A or Class B common stock into which the Preferred Stock converts is equal to the original issuance price (defined as $2.15 per share for the Series A and $2.44 per share for the Series B) divided by the conversion price. The conversion price shall initially be $2.15 per share for the Series A and $2.44 per share for the Series B and may be adjusted for certain dilutive events such as a down-round provision, stock splits and combinations, certain dividends and distributions or any merger or reorganization. Conversion to Class A common stock shall be mandatory upon the closing of an initial public offering resulting in net proceeds of at least $75.0 million for Series A and $50.0 million for Series B and at an offering price per share greater than or equal to $4.30 per share for Series A and $3.66 per share for Series B or upon the decision of the holders of at least a majority of the outstanding Preferred Stock shares. Prior to the Mandatory Conversion Time (as defined), a Preferred Stockholder may elect, upon written notice to the Company, to have all or a portion of its shares of Preferred Stock automatically convert into shares of Class B common stock at the then effective conversion rate.

Redemption

The Preferred Stock is subject to redemption under certain deemed liquidation events not solely within the control of the Company, as defined, and as such is considered contingently redeemable for accounting purposes and is classified as temporary equity in the Company's balance sheets.

11. Stockholders' Deficit

Class A and Class B Common stock

The holders of Class A common stock are entitled to one vote for each share of Class A common stock held at all meetings of stockholders. Unless required by law, there is no cumulative voting. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company, after the payment of all preferential amounts required to be paid to the holders of shares of Preferred Stock, the remaining funds and assets available for distribution to the stockholders of the Company will be distributed among the holders of shares of Class A and Class B common stock ("Common Stock"), pro rata basis based on the number of shares of Common Stock held by each such holder.

Each holder of shares of Class B common stock shall have right to convert each share of Class B common stock held into one share of Class A common stock at the election of the holder, provide that, following the closing of a potential initial public offering (as defined above), the shares of the Class B common stock may only be converted into shares of Class A common stock provided it would not result in the holder owning in excess of 4.99% of any class of securities.

The Company had reserved shares of Common Stock for future issuance as follows:

	December 31,	
	2022	2021
Conversion of Series A-1	18,604,653	18,604,653
Conversion of Series A-2	13,291,208	13,291,208
Conversion of Series B	74,405,719	47,131,133
Total conversion of preferred stock	106,301,580	79,026,994
Options outstanding	6,198,849	6,203,580
Shares available for future grant under the 2018 Equity Incentive Plan	4,173,909	4,282,324
Total Common Stock reserved	116,674,338	89,512,898

12. Stock-Based Compensation

The Company adopted the 2018 Stock Incentive Plan (the "Plan"), as amended, providing for the issuance of up to 4,050,664 shares of Class A common stock to employees, officers, directors, and non-employees in the form of nonqualified and incentive stock options, restricted stock awards, and other stock-based awards. During 2020, the Company amended the Plan and increased the total available Class A common stock for issuance to 11,788,595 shares. As of December 31, 2022, there were 4,173,909 Class A common Stock available for issuance.

The Company measures stock-based awards at their grant-date fair value and records compensation expense on a straight-line basis over the vesting period of the awards. The Company recorded stock-based compensation expense in the following expense categories in its accompanying statements of operations:

(in thousands)	Year Ended December 31, 2022	2021
Research and development	$ 732	$ 474
General and administrative	520	422
Total expense	$1,252	$ 896

The following table summarizes the option activity under the Plan:

	Number of shares	Weighted average exercise price per share	Weighted average remaining contractual term (years)
Outstanding at January 1, 2021	4,522,576	$ 0.61	9.03
Granted	3,133,947	$ 1.31	—
Exercised	(606,923)	$ 0.46	—
Expired/Forfeited	(846,020)	$ 0.78	—
Outstanding at December 31, 2021	6,203,580	$ 0.95	8.73
Granted	766,800	$ 1.74	—
Exercised	(113,208)	$ 0.65	—
Expired/Forfeited	(658,323)	$ 1.17	—
Outstanding at December 31, 2022	6,198,849	$ 1.00	7.37
Exercisable at December 31, 2022	3,156,028	$ 0.80	6.54

At December 31, 2022, the aggregate intrinsic value of outstanding options and exercisable options was approximately $2.9 million and $2.0 million, respectively. The aggregate intrinsic value of options exercised was approximately $0.1 million for the year ended December 31, 2022.

The weighted-average grant date fair value of options granted was $1.16 and $0.82 per share for the years ended December 31, 2022 and 2021, respectively. The Company recorded stock-based compensation related to stock options of approximately $1.0 million and $0.6 million for the years ended December 31, 2022 and 2021, respectively. As of December 31, 2022, the total unrecognized compensation expense related to unvested stock option awards was approximately $2.4 million, which the Company expects to recognize over a weighted-average period of 2.38 years.

The fair value of each option was estimated on the date of grant using the weighted average assumptions in the table below:

	Year Ended December 31, 2022	2021
Expected volatility	71.71%-74.01%	66.12%-71.66%
Risk-free interest rate	1.47%-4.22%	0.65%-1.34%
Expected life (in years)	5.87-6.09	3.58-6.08
Expected dividend yield	—	—
Fair value of common stock	$ 1.53	$ 1.74

Restricted Stock Awards

The Company granted shares of its restricted Class A common stock to certain of its employees in accordance with the terms of their restricted stock award agreements or RSA. The total shares vest over a period of four years.

The following table summarizes restricted Class A common stock activity;

	Number of shares	Weighted-average grant date fair value
Unvested balance at January 1, 2021	1,403,070	$ 0.44
Vested	(687,621)	$ 0.44
Unvested balance at December 31, 2021	715,449	$ 0.44
Vested	(626,906)	$ 0.44
Unvested balance at December 31, 2022	88,543	$ 0.44

The Company recorded stock-based compensation expense related to RSAs of approximately $0.2 million and $0.3 million for the years ended December 31, 2022, and 2021, respectively. As of December 31, 2022, the amount of unvested compensation related to the unvested outstanding shares of restricted Class A common stock was approximately $0.04 million, which will be recorded as expense in over a weighted average life of 0.06 years as the shares vest.

13. Income Taxes

No provision for federal or state income taxes was recorded during the years ended December 31, 2022 and 2021, as the Company incurred operating losses and maintains a full valuation allowance against its net deferred tax assets. The reported amount of income tax benefit for the years ended December 31, 2022 and 2021 differs from the amount that would result from applying domestic federal statutory rates to pretax losses primarily because of changes in the valuation allowance, state taxes, and the generation of research and development credits.

The reconciliation of the Federal statutory income tax provision to the Company's effective income tax provision is as follows:

	Year Ended December 31,	
	2022	2021
Federal statutory income tax	21.0%	21.0%
State income taxes, net of federal tax benefit	(0.1)%	2.4%
Other permanent items	(0.4)%	(0.2)%
Research and development credit	3.0%	2.2%
Valuation allowance	(23.5)%	(25.4)%
Effective income tax rate	—	—

Significant components of the Company's net deferred tax assets are as follows:

	Year Ended December 31,	
	2022	2021
Deferred tax assets:		
Net operating loss carryforwards	$ 25,253	$ 22,176
Research and development credits	3,681	2,013
Accruals & reserves	727	695
Stock compensation	107	26
Amortization	298	201
Depreciation	—	24
Lease liability	995	1,214
Capitalized research and development expenses	8,271	—
Total deferred tax assets	39,332	26,349
Valuation allowance	(38,168)	(25,195)
Net deferred tax assets	$ 1,164	$ 1,154
Deferred tax liabilities:		
Depreciation	(224)	—
Right of Use Asset	(940)	(1,154)
Total deferred tax liabilities	(1,164)	(1,154)
Net deferred taxes	$ —	—

As of December 31, 2022 and 2021, the Company had a federal net operating loss carryforward of $110.5 million and $95.5 million, respectively, which may be available to offset future income tax liabilities and can be carried forward indefinitely. As of December 31, 2022 and 2021, the Company has state NOL carryforwards of $36.0 million and $37.2 million, respectively, which expire at various dates through 2041.

As of December 31, 2022 and 2021, the Company has federal research and development tax credit carryforwards of $2.9 million and $2.0 million, respectively, which expire at various dates though 2042. As of December 31, 2022, the Company has federal orphan drug tax credit carryforwards of $0.7 million, which expire at various dates though 2041.

Future realization of the tax benefits of existing temporary differences and net operating loss carryforwards ultimately depends on the existence of sufficient taxable income within the carryforward period. As of December 31, 2022 and 2021, the Company performed an evaluation to determine whether a valuation allowance was needed. The Company considered all available evidence, both positive and negative, which included the results of operations for the current and preceding years. The Company determined that it was not possible to reasonably quantify future taxable income and determined that it is more likely than not that the deferred tax assets net of taxable deferred tax liabilities and uncertain tax positions will not be realized. Accordingly, the Company maintained a full valuation allowance as of December 31, 2022 and 2021.

The Company's valuation allowance for the years ended December 31, 2022 and 2021 is as follows:

(in thousands)	Year Ended December 31, 2022	2021
Valuation allowance beginning of year	$25,195	$12,317
Increased recorded to income tax provision	12,973	12,878
Valuation allowance at end of year	$38,168	$25,195

Utilization of the net operating loss and research and development credit carryforwards may be subject to a substantial annual limitation under Sections 382 and 383 of the Internal Revenue Code of 1986 due to ownership change limitations that have occurred previously or that could occur in the future. These ownership changes may limit the amount of net operating loss and research and development credit carryforwards that can be utilized annually to offset future taxable income and tax, respectively. The Company has not completed a study to assess whether a change of ownership has occurred, or whether there have been multiple ownership changes since its formation, due to the significant cost and complexity associated with a study. There could also be additional ownership changes in the future which may result in additional limitations on the utilization of net operating loss carryforwards and tax credits.

The Company files tax returns as prescribed by the tax laws of the jurisdictions in which it operates. In the normal course of business, the Company is subject to examination by federal and state jurisdictions, where applicable. There are currently no pending tax examinations. The Company's tax returns are open under statute from 2018 to the present.

As of December 31, 2022 and 2021, the Company had liabilities for uncertain tax positions of $1.1 million and $0.6 million, respectively, which, if recognized, would impact the Company's effective income tax rate. The Company's policy is to record interest and penalties related to income taxes as part of its income tax provision. As of December 31, 2022 and 2021, the Company had not accrued interest or penalties related to uncertain tax position.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	Year Ended December 31,	
	2022	2021
Beginning balance	$ 632	$ 292
Additions based on tax positions related to current year	476	340
Additions for tax positions of prior years	—	—
Expiration of statutes of limitation	—	—
Reductions due to settlements with tax authorities	—	—
Ending Balance	$1,108	$ 632

14. Employee Benefit Plan

The Company sponsors a 401(k) Plan. Employees become eligible for participation upon the start of employment. Participants may elect to have a portion of their salary deferred and contributed to the 401(k) Plan up to the limit allowed under the Internal Revenue Code. The Company makes a matching contribution to the plan for each participant who has elected to make tax-deferred contributions for the plan year. The Company made matching contributions which amounted to approximately $0.5 million and $0.3 million for each of the years ended December 31, 2022 and 2021, respectively. These amounts were charged to the statement of operations. The employer contributions vest over a six-year period.

15. Employee Retention Credit

Pursuant to the CARES Act, the Company is eligible for an employee retention credit subject to certain criteria. Since there are no generally accepted accounting principles for for-profit business entities that receive government assistance that is not in the form of a loan, an income tax credit or revenue from a contract with a customer, we determined the appropriate accounting treatment by analogy to other guidance. We accounted for the employee retention credit by analogy to International Accounting Standards (IAS) 20, Accounting for Government Grants and Disclosure of Government Assistance, of International Financial Reporting Standards (IFRS).

Under an IAS 20 analogy, a business entity would recognize the employee retention credit on a systematic basis over the periods in which the entity recognizes the payroll expenses for which the grant (i.e., tax credit) is intended to compensate when there is reasonable assurance (i.e., it is probable) that the entity will comply with any conditions attached to the grant and the grant (i.e., tax credit) will be received.

The Company accounted for and received approximately $0.5 million of employee retention credits during the year ended December 31, 2021, which was recorded as a reduction of research and development expenses and general and administrative expenses on the statement of operations.

16. Subsequent Events

Our subsequent events were evaluated through August 18, 2023, the date to which these financial statements were made available.

In January 2023, Neurogene entered into a Non-Exclusive License Agreement with Sigma-Aldrich Co. LLC, pursuant to which Neurogene has a license to certain patents and know-how on a non-exclusive basis related to certain cell lines used in Neurogene's baculo process in exchange for a small annual fee on a product-by-product basis, payable once the first product candidate enters the clinic. In addition, on a product-by-product basis, Neurogene is obligated to pay up to $2.5 million in the aggregate for development-related milestones.

In January 2023, 36,999 shares of Class A Common Stock were issued upon option exercise.

In February 2023, 138,866 shares of Class A Common Stock were issued upon option exercise and 77,700 options were granted to employees.

In March 2023, 3,152 shares of Class A Common Stock were issued upon option exercise and 2,317,250 options were granted to employees.

In April 2023, 35,502 shares of Class A Common Stock were issued upon option exercise and 21,800 options were granted to employees.

In May 2023, 908 shares of Class A Common Stock were issued upon option exercise.

In June 2023, 10,000 options were granted to employees.

In July 2023, 862 shares of Class A Common Stock were issued upon option exercise.

In August 2023, 1000 shares of Class A Common Stock were issued upon option exercise.

Neurogene Inc.
Condensed Balance Sheets
(In Thousands, Except for Share Information)
(Unaudited)

	June 30, 2023	December 31, 2022
Assets		
Current Assets:		
Cash and cash equivalents	$ 59,049	$ 82,021
Prepaid expenses and other current assets	3,332	2,698
Total current assets	62,381	84,719
Deferred Financing Costs	623	—
Property and equipment, net	18,651	20,115
Operating lease right-of-use assets	4,020	4,344
Finance lease right-of-use assets	119	87
Total assets	$ 85,794	$ 109,265
Liabilities, Convertible Preferred Stock and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 1,529	$ 625
Accrued expenses and other current liabilities	4,559	5,324
Operating lease liabilities, current	715	678
Finance lease liabilities, current	39	24
Total current liabilities	6,842	6,651
Operating lease liabilities, non-current	3,553	3,921
Finance lease liabilities, non-current	86	66
Total liabilities	10,481	10,638
Commitments and contingencies (Note 8)		
Convertible preferred stock:		
Series A-1 Convertible Preferred stock, $0.0001 par value; 18,604,653, authorized, issued and outstanding as of June 30, 2023 and December 31, 2022, respectively (liquidation value of $40,000 at June 30, 2023)	34,414	34,414
Series A-2 Convertible Preferred stock, $0.0001 par value; 13,291,208 shares authorized, issued and outstanding as of June 30, 2023 and December 31, 2022, respectively (liquidation value of $28,675 at June 3, 2023)	28,675	28,675
Series B Convertible Preferred stock, $0.0001 par value; 88,114,739 shares authorized and 74,405,719 issued and outstanding as of June 30, 2023 and December 31, 2022, respectively (liquidation value of $181,550 at June 30, 2023)	181,277	181,277
Total convertible preferred stock	244,366	244,366
Stockholders' Deficit:		
Class A Common stock, $0.0001 par value; 126,000,000 shares authorized, 5,881,264 and 5,665,873 shares outstanding as of June 30, 2023 and December 31, 2022, respectively	1	1
Class B Common stock, $0.0001 par value; 120,010,600 shares authorized, and no shares issued and outstanding as of June 30, 2023 and December 31, 2022, respectively	—	—
Additional paid-in capital	5,906	5,097
Accumulated deficit	(174,960)	(150,837)
Total stockholders' deficit	(169,053)	(145,739)
Total liabilities, convertible preferred stock and stockholders' deficit	$ 85,794	$ 109,265

The accompanying notes are an integral part of these condensed financial statements.

Neurogene Inc.
Condensed Statements of Operations
(In Thousands, Except Share Information)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Operating expenses:				
Research and development expenses	$ 10,321	$ 13,173	$ 20,604	$ 25,687
General and administrative expenses	2,275	2,241	5,027	4,881
Total operating expenses	12,596	15,414	25,631	30,568
Loss from operations	(12,596)	(15,414)	(25,631)	(30,568)
Other income (expense):				
Interest income, net	743	169	1,520	183
Interest expense	(3)	—	(5)	—
Other income (expense)	(4)	—	(7)	—
Net loss	$ (11,860)	$ (15,245)	$ (24,123)	$ (30,385)
Per share information:				
Net loss per share of Class A and Class B common stock outstanding, basic and diluted	$ (2.02)	$ (2.98)	$ (4.15)	$ (6.04)
Weighted-average shares of Class A and Class B common stock outstanding, basic and diluted	5,879,262	5,124,201	5,807,917	5,032,830

The accompanying notes are an integral part of these condensed financial statements.

Neurogene Inc.
Condensed Statements of Changes in Convertible Preferred Stock and Stockholders' Deficit
(In Thousands, Except Share Information)
(Unaudited)

	Convertible Preferred Stock						Stockholders' deficit						
	Series A-1 Convertible Preferred Stock		Series A-2 Convertible Preferred Stock		Series B Convertible Preferred Stock		Class A Common Stock		Class B Common Stock				
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Additional Paid- In Capital	Accumulated Deficit	Total Stockholders' Deficit
Balance- December 31, 2022	18,604,653	$ 34,414	13,291,208	$ 28,675	74,405,719	$181,277	5,665,837	$ 1	—	$ —	$ 5,097	$ (150,837)	$ (145,739)
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	293	—	293
Class A common stock issued upon exercise of stock options	—	—	—	—	—	—	179.017	—	—	—	112	—	112
Net loss	—	—	—	—	—	—	—	—	—	—	—	(12,263)	(12,263)
Balance- March 31, 2023	18,604,653	$ 34,414	13,291,208	$ 28,675	74,405,719	$181,277	5,844,854	$ 1	—	$ —	$ 5,502	$ (163,100)	$ (157,597)
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	384	—	384
Class A common stock issued upon exercise of stock options	—	—	—	—	—	—	36,410	—	—	—	20	—	20
Net loss	—	—	—	—	—	—	—	—	—	—	—	(11,860)	(11,860)
Balance- June 30, 2023	18,604,653	$ 34,414	13,291,208	$ 28,675	74,405,719	$181,277	5,881,264	$ 1	—	$ —	$ 5,906	$ (174,960)	$ (169,053)

	Convertible Preferred Stock						Stockholders' deficit						
	Series A-1 Convertible Preferred Stock		Series A-2 Convertible Preferred Stock		Series B Convertible Preferred Stock		Class A Common Stock		Class B Common Stock				
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Additional Paid- In Capital	Accumulated Deficit	Total Stockholders' Deficit
Balance- December 31, 2021	18,604,653	$ 34,414	13,291,208	$ 28,675	47,131,133	$114,818	5,552,691	$ 1	—	$ —	$ 3,772	$ (95,648)	$ (91,875)
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	309	—	309
Series B convertible preferred stock, net of $76 offering costs	—	—	—	—	24,405,734	59,475	—	—	—	—	—	—	—
Class A common stock issued upon exercise of stock options	—	—	—	—	—	—	287	—	—	—	—	—	—
Net loss	—	—	—	—	—	—	—	—	—	—	—	(15,140)	(15,140)
Balance- March 31, 2022	18,604,653	$ 34,414	13,291,208	$ 28,675	71,536,867	$174,293	5,552,978	$ 1	—	$ —	$ 4,081	$ (110,788)	$ (106,706)
Stock-based compensation expense	—	—	—	—	—	—	—	—	—	—	309	—	309
Series B convertible preferred stock, net of $76 offering costs	—	—	—	—	2,868,852	7,000	—	—	—	—	—	—	—
Class A common stock issued upon exercise of stock options	—	—	—	—	—	—	13,358	—	—	—	8	—	8
Net loss	—	—	—	—	—	—	—	—	—	—	—	(15,245)	(15,245)
Balance- June 30, 2022	18,604,653	$ 34,414	13,291,208	$ 28,675	74,405,719	$181,293	5,566,336	$ 1	—	$ —	$ 4,398	$ (126,033)	$ (121,634)

The accompanying notes are an integral part of these condensed financial statements.

Neurogene Inc.
Condensed Statements of Cash Flows
(In Thousands, Except Share Information)
(Unaudited)

	Six Months Ended June 30,	
	2023	2022
Cash flows used in operating activities:		
Net loss	$ (24,123)	$ (30,385)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	677	618
Depreciation and amortization of property and equipment	1,627	1,502
Amortization of operating lease right-of-use assets	324	297
Amortization of finance lease right-of-use assets	14	—
Changes in assets and liabilities:		
Prepaid expenses and other current assets	(634)	487
Accounts payable	852	(3,126)
Accrued expenses and other current liabilities	(1,288)	(901)
Operating lease liabilities	(331)	(298)
Net cash used in operating activities	(22,882)	(31,806)
Cash flows used in investing activities:		
Purchases of property and equipment	(111)	(2,008)
Net cash used in investing activities	(111)	(2,008)
Cash flows provided by financing activities:		
Deferred offering cost	(100)	—
Proceeds from issuance of Series B convertible preferred stock, net of offering costs	—	66,475
Proceeds from the issuance of Class A common stock upon exercise of options	132	8
Principal payments on finance leases	(11)	—
Net cash (used in) provided by financing activities	21	66,483
Net (decrease) increase in cash and cash equivalents	(22,972)	32,669
Cash and cash equivalents at beginning of period	82,021	70,544
Cash and cash equivalents at end of period	$ 59,049	$ 103,213
Supplemental disclosure of non-cash investing and financing activities:		
Finance lease right of use asset and lease liability	$ 46	$ —
Fixed asset purchases and construction in process in accounts payable and accrued expense	$ 52	$ 270
Deferred offering cost	$ 523	$ —
Supplemental cash flow information:		
Cash paid for interest	$ 5	$ —

The accompanying notes are an integral part of these condensed financial statements.

NEUROGENE INC.
NOTES TO CONDENSED FINANCIAL STATEMENTS (UNAUDITED)

1. Organization and Description of Business

Neurogene Inc. (the "Company") is a clinical stage biotechnology company that was incorporated as a limited liability company in Delaware on January 26, 2018 and converted into a corporation on July 3, 2018, and has a principal place of business in New York, NY. The Company was formed to harness the power of gene therapy, combined with its EXACT gene regulation technology, to turn today's complex, devastating neurological diseases into treatable conditions. The Company's first clinical-stage program to utilize the EXACT technology is NGN-401, which is under development for the treatment of Rett syndrome. In addition to NGN-401, Neurogene is also pursuing a conventional gene therapy program in an ongoing Phase 1/2 clinical trial of NGN-101 for the treatment of CLN5 Batten disease. Since beginning operations, the Company has devoted substantially all its efforts to research and development, recruiting management and technical staff, administration, and raising capital.

2. Risks and Uncertainties

The Company is subject to risks common to companies in the biotechnology industry, including, but not limited to, successful development of technology, obtaining additional funding, protection of proprietary technology, compliance with government regulations, risks of failure of pre-clinical studies, clinical studies and clinical trials, the need to obtain marketing approval for its drug candidates and its consumer products, fluctuations in operating results, economic pressure impacting therapeutic pricing, dependence on key personnel, risks associated with changes in technologies, development by competitors of technological innovations and the ability to transition from pilot scale manufacturing to large scale production.

Liquidity and Going Concern

Management expects to incur substantial and increasing losses in future periods as the Company advances its products through its clinical process and will rely on outside capital to fund its operations for the foreseeable future. The success of the Company is subject to certain risks and uncertainties including, among others: uncertainty of product development; competition in the Company's field of use; uncertainty of capital availability; uncertainty in the Company's ability to enter into agreements with collaborative partners; dependence on third parties; and dependence on key personnel. The Company has not generated positive cash flows from operations, and there are no assurances that the Company will be successful in obtaining an adequate level of financing for the development and commercialization of its product candidates.

The Company evaluated certain adverse conditions and events that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the accompanying financial statements were issued or available to be issued (the "issuance date"). Since its inception, the Company has funded its operations primarily with proceeds from the sale of preferred stock and has incurred significant recurring losses, including net losses of $24.1 million and $30.4 million for the six months ended June 30, 2023 and 2022, respectively. In addition, the Company used cash in operations of $22.9 million and $31.8 million for the six months ended June 30, 2023 and 2022, respectively, and had an accumulated deficit of $169.1 million as of June 30, 2023. The Company expects its available cash and cash equivalents on hand as of the issuance date will not be sufficient to fund its obligations as they become due for at least one year beyond the issuance date.

While the Company is seeking to secure additional outside capital as of the issuance date, management can provide no assurance such capital will be secured or on terms that are acceptable to the Company. Similarly, as disclosed in Notes 3 and 8, while the Company plans to consummate a reverse merger and concurrent private financing during the fourth quarter of 2023, management can provide no assurance the reverse merger and concurrent private financing will be consummated on terms that are acceptable to the Company, if at all.

In the event the Company is unable to secure additional outside capital or consummate the reverse merger and concurrent private financing, management will be required to seek other alternatives which may include, among others, a delay or termination of clinical trials or the development of its product candidates, temporary or permanent curtailment of the Company's operations, a sale of assets, or other alternatives with strategic or financial partners.

The accompanying financial statements do not include any adjustments that might result from the outcome of these uncertainties. Accordingly, the financial statements have been prepared on a basis that assumes the Company will continue as a going concern and which contemplates the realization of assets and satisfaction of liabilities and commitments in the ordinary course of business.

3. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying interim condensed financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America ("GAAP") and applicable rules and regulations of the Securities and Exchange Commission ("SEC") regarding interim financial reporting. The accompanying comparative condensed balance sheets and the condensed statements of operations, convertible preferred stock and stockholders' deficit, and cash flows are unaudited. Certain information and note disclosures normally included in the financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such rules and regulations. Therefore, these condensed consolidated financial statements should be read in conjunction with the Company's audited financial statements for the fiscal year ended December 31, 2022.

The condensed balance sheet as of December 31, 2022, included herein, was derived from the audited financial statements as of that date, but does not include all disclosures including certain notes required by GAAP on an annual reporting basis.

In the opinion of management, the accompanying condensed financial statements reflect all normal recurring adjustments necessary to present fairly the financial position, results of operations, comprehensive loss and cash flows for the interim periods. The results for the three and six months ended June 30, 2023 are not necessarily indicative of the results to be expected for any subsequent quarter, the fiscal year ending December 31, 2023, or any other period.

Proposed Merger with Neoleukin Therapeutics, Inc.

On July 18, 2023, Neurogene entered into a Merger Agreement with Neoleukin Therapeutics, Inc. ("Neoleukin") and Merger Sub. Pursuant to the Merger Agreement, among other matters, and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly-owned subsidiary of Neoleukin, and Neoleukin being the surviving corporation of the merger, which will be renamed Neurogene Inc.

Subject to the terms and conditions of the Merger Agreement, at the closing of the merger, (a) each outstanding share of Neurogene common stock (including shares of Neurogene common stock issued upon conversion of Neurogene preferred stock and shares of Neurogene common stock issued in the Neurogene pre-closing financing) will be converted into the right to receive a number of shares of Neoleukin common stock (after giving effect to the reverse stock split) equal to the exchange ratio set forth in the Merger Agreement; (b) each outstanding pre-funded warrant to purchase shares of Neurogene common stock will be converted into the right to receive a number of pre-funded warrants to purchase Neoleukin common stock equal to the exchange ratio set forth in the Merger Agreement; (c) each then outstanding Neurogene stock option that has not previously been exercised immediately prior to the effective time of the merger will be assumed by Neoleukin; and (d) each then outstanding Neurogene restricted stock unit immediately prior to the effective time of the merger will be assumed by Neoleukin.

Under the exchange ratio formula in the Merger Agreement, as of immediately after the merger, pre-merger Neurogene stockholders, including purchasers of Neurogene common stock and Neurogene pre-funded warrants in the Neurogene pre-closing financing, are currently estimated to own approximately 84% of the outstanding shares of capital stock of the combined company, and pre-merger stockholders of Neoleukin are currently estimated to own approximately 16% of the outstanding shares of capital stock of the combined company, subject to certain assumptions, including, but not limited to, Neoleukin's net cash as of closing being at least $66.0 million.

The Merger Agreement contains certain termination rights of each of Neoleukin and Neurogene. Upon termination of the Merger Agreement under specified circumstances, Neoleukin may be required to pay Neurogene a termination fee of $3.04 million and/or reimburse Neurogene's expenses up to a maximum of $1.0 million, and Neurogene may be required to pay Neoleukin a termination fee of $12.0 million and/or reimburse Neoleukin's expenses up to a maximum of $1.0 million.

Use of Estimates

The preparation of the financial statements in accordance with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. In preparing these financial statements, management used significant estimates in the following areas, among others: recoverability of our net deferred tax assets and related valuation allowance, useful lives and recoverability of property and equipment, determining the Incremental Borrowing Rate ("IBR") for calculating lease liabilities and related Right-Of-Use ("ROU") assets and finance lease assets, the value attributed to employee stock options and other stock-based awards, and valuation of Common Stock. On an ongoing basis, the Company reviews its estimates to ensure that they appropriately reflect changes in the business or as new information becomes available. Actual results may differ from these estimates.

Concentrations of Credit Risk

Financial instruments that subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents. The Company's cash and cash equivalent accounts, at times, may exceed federally insured limits. As of June 30, 2023, the Company had $58.8 million in excess of the federally insured limits. The Company places its cash in a financial institution that management believes to be of high credit quality.

Significant Accounting Policies

The Company's significant accounting policies are disclosed in the audited financial statements. Since the date of those financial statements, there have been no changes to the Company's significant accounting policies except as noted below.

Deferred Offering Costs

The Company capitalizes certain legal, professional accounting and other third-party fees that are directly associated with in-process equity financings (including reverse asset purchases) as deferred offering costs until such financings are consummated. After consummation of an equity financing, these costs are recorded as a reduction of the proceeds from the offering, either as a reduction of the carrying value of the preferred stock or in stockholders' deficit as a reduction of additional paid-in capital generated as a result of the common stock offering. Should the in-process equity financing be abandoned, the deferred offering costs would be expensed immediately as a charge to operating expenses in the statements of operations. As of June 30, 2023, the Company capitalized $0.6 million of deferred offering costs related to the Company's planned reverse asset purchase based on a merger agreement entered into with Neoleukin on July 18, 2023.

Net Loss Per Share Attributable to Common Stockholders

Basic net loss per share attributable to Class A and Class B common stock is computed by dividing net loss by the weighted-average number of shares of Class A and Class B common stock outstanding during each period. The weighted-average number of shares of Class A and Class B common stock outstanding used in the basic net loss per share calculation does not include unvested restricted stock awards as these instruments are considered contingently issuable shares until they vest. Diluted net loss per share of Class A and Class B common stock includes the effect, if any, from the potential exercise or conversion of securities, such as convertible preferred stock and stock options, which would result in the issuance of incremental shares of Class A or Class B common stock. For diluted net loss per share, the weighted-average number of shares of Class A and Class B common stock is the same for basic net loss per share due to the fact that when a net loss exists, dilutive securities are not included in the calculation as the impact is anti-dilutive.

The Company's convertible preferred stock and unvested restricted stock entitles the holder to participate in dividends and earnings of the Company, and, if the Company were to recognize net income, it would have to use the two-class method to calculate earnings per share. The two-class method is not applicable during periods with a net loss, as the holders of the convertible preferred stock and unvested restricted stock have no obligation to fund losses.

The following potentially dilutive securities have been excluded from the computation of diluted weighted-average shares of Class A and Class B common stock outstanding, as they would be anti-dilutive:

	June 30,	
	2023	2022
Series A-1 convertible preferred stock	18,604,653	18,604,653
Series A-2 convertible preferred stock	13,291,208	13,291,208
Series B convertible preferred stock	74,405,719	74,405,719
Unvested restricted stock awards	—	371,639
Stock options	8,135,030	6,086,827
Total	114,436,610	112,760,046

Recently Issued Accounting Standards

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies that the Company adopts as of the specified effective date. Unless otherwise discussed below, the Company does not believe that the adoption of recently issued standards have or may have a material impact on our condensed financial statements or disclosures.

Recently Issued Accounting Pronouncements Not Yet Adopted

In August 2020, the FASB issued ASU 2020-06, *Debt-Debt with Conversion and Other Options* (Subtopic 470-20) and Derivatives and Hedging-Contracts in Entity's Own Equity (Subtopic 815-40): *Accounting for Convertible Instruments and Contracts in an Entity's Own Equity*. This standard amends the guidance on convertible instruments and the derivatives scope exception for contracts in an entity's own equity and improves and amends the related earnings per share EPS guidance for both subtopics. This standard will be effective for annual reporting periods beginning after December 15, 2023 and interim periods within those annual periods, and early adoption is permitted in annual reporting periods ending after December 15, 2020. The Company is currently evaluating the impact of this standard on the Company's financial statements and related disclosures but does not expect the adoption of ASU 2020-06 to be material.

Recently Adopted Accounting Pronouncements

The Company adopted ASU 2016-13, *Financial Instruments—Credit Losses*, as amended, on January 1, 2023. This ASU sets forth a current expected credit loss model which requires the Company to measure all

expected credit losses for financial instruments held at the reporting date based on historical experience, current conditions, and reasonable supportable forecasts. This replaces the existing incurred loss model and is applicable to the measurement of credit losses on financial assets measured at amortized cost and applies to some off-balance sheet credit exposures. The impact on the Company's financial statements was not material.

4. Fair Value of Financial Instruments

As of June 30, 2023 and December 31, 2022, financial assets measured at fair value on a recurring basis are categorized in the table below based upon the lowest level of significant input to the valuations:

	Fair value measurement at reporting date using		
(in thousands)	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
June 30, 2023:			
Assets:			
Money market funds	$ 56,264	$ —	$ —
December 31, 2022:			
Assets:			
Money market funds	$ 78,749	$ —	$ —

Money market funds are cash equivalents and are included in cash and cash equivalents in the balance sheet as of June 30, 2023 and December 31, 2022.

5. Prepaid expenses and other current assets

Prepaid expenses and other assets consist of the following:

(in thousands)	June 30, 2023	December 31, 2022
Refunds and other receivables	$ 577	$ 990
Prepaid expense	2,015	1,078
Other current assets	740	630
Total prepaid and other current assets	$3,332	$ 2,698

6. Property and Equipment, Net

Property and equipment consist of the following:

(in thousands)	June 30, 2023	December 31, 2022
Lab equipment	$ 3,155	$ 3,088
Manufacturing equipment	6,004	5,955
Office Equipment	19	—
Leasehold improvements	15,344	15,298
Software	268	289
Construction in progress	234	252
Total property and equipment, cost	25,024	24,882
Less accumulated depreciation	(6,373)	(4,767)
Property and equipment, net	$18,651	$ 20,115

Depreciation and amortization expense for each of the three months ended June 30, 2023 and 2022 was approximately $0.8 million and was approximately $1.6 million and $1.5 million for the six months ended June 30, 2023 and 2022, respectively.

7. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following:

(in thousands)	June 30, 2023	December 31, 2022
Compensation and related benefits	$ 1,729	$ 3,357
Research and development	2,102	1,800
Other	728	167
Total accrued expenses and other current liabilities	$ 4,559	$ 5,324

8. Commitments and Contingencies

Operating and Finance Leases

Supplemental lease expense related to leases for the three and six months ended June 30, 2023 and 2022 was as follows (in thousands):

Lease cost (in thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Operating lease cost	$ 259	$ 259	$ 518	$ 518
Finance lease cost				
Amortization of finance leases	8	—	14	—
Interest on finance lease liabilities	3	—	5	—
Variable lease cost	56	51	110	105
Short-term lease cost	19	17	42	31
Total lease cost	$ 345	$ 327	$ 689	$ 654

The following table summarizes the maturity of the Company's operating and finance lease liabilities on an undiscounted cash flow basis and a reconciliation to the operating and finance lease liabilities recognized on the Company's balance sheet as of June 30, 2023:

Maturity of operating lease liabilities (in thousands)	
2023 (remaining)	$ 527
2024	1,081
2025	1,119
2026	866
2027	677
2028	677
2029	397
Total lease payments	$ 5,344
Less: interest	(1,076)
Total operating lease liabilities	$ 4,268

Maturity of finance lease liabilities (in thousands)	
2023 (remaining)	$ 25
2024	51
2025	49
2026	15
2027	6
2028	1
Total lease payments	$147
Less: interest	(22)
Total finance lease liabilities	$125

Supplemental balance sheet information related to leases as of June 30, 2023 was as follows:

Leases (in thousands)	
Operating right-of-use assets	$4,020
Operating lease liabilities, current	715
Operating lease liabilities, non-current	3,553
Total operating lease liabilities	$4,268
Finance right-of-use assets	$ 119
Finance lease liabilities, current	39
Finance lease liabilities, non-current	86
Total finance lease liabilities	125

Other information	
Cash paid for amounts included in measurement of operating lease liabilities (in thousands)	$ 525
Cash paid for amounts included in measurement of finance lease liabilities (in thousands)	$ 16
Weighted-average remaining lease term - operating leases (in years)	5.27
Weighted-average remaining lease term - finance lease (in years)	3.00
Weighted-average discount rate - operating leases	8.87%
Weighted-average discount rate - finance lease	11.49%

Employment Agreements

The Company entered into employment agreements with key personnel providing for compensation and severance in certain circumstances, as defined in the respective employment agreements.

Other Research and Development Arrangements

The Company enters into agreements with contract research organizations (“CROs”) to assist in the performance of research and development activities. Expenditures to CROs will represent a significant cost in clinical development for the Company.

Litigation and Legal Proceedings

The Company is subject to litigation and other claims that arise in the ordinary course of business. While the ultimate result of outstanding legal matters cannot presently be determined, the Company does not expect that the ultimate disposition will have a material adverse effect on its results of operations or financial condition. However, legal matters are inherently unpredictable and subject to significant uncertainties, some of which are beyond the Company’s control. As such, there can be no assurance that the final outcome of any particular legal matter will not have a material adverse effect on the Company’s financial condition and results of operations.

Pre-Merger Financing

Concurrently with the execution of the Merger Agreement, and in order to provide Neurogene with additional capital for its development programs prior to the closing of the merger, certain new and current investors have agreed to purchase an aggregate of approximately 38,177,770 shares of common stock of Neurogene and pre-funded warrants to acquire approximately 16,421,271 of Neurogene shares of common stock for the aggregate amount of approximately $95.0 million in the Neurogene pre-closing financing. In connection with the Neurogene pre-closing financing, Neurogene will amend its charter to increase the authorized number of shares of common stock in order to permit issuance of the shares and the shares issuable upon exercise of the pre-funded warrants purchased in the Neurogene pre-closing financing. The board of directors of both Neoleukin and Neurogene have approved the proposed transaction. Completion of the transaction, which is expected by the fourth quarter of 2023, is subject to approval of the merger by Neoleukin's and Neurogene's stockholders and the satisfaction or waiver of the closing conditions of the merger and certain other customary closing conditions.

9. Licenses

License Agreement with The University of North Carolina

In May 2019, Neurogene entered into an Exclusive License Agreement with the University of North Carolina at Chapel Hill ("UNC") to obtain an exclusive, worldwide, royalty bearing license, with the right to grant sublicenses under certain patents to make, use, or sell products covered by such patents for prevention or treatment of disease or medical or genetic conditions, including CLN5 Batten disease or other diseases from dysfunction of the CLN5 gene. The Company is obligated to pay UNC up to $1.7 million in sales-related milestones for licensed products based on annual sales of the licensed product in excess of defined thresholds and low single-digit percentage royalties on net sales of licensed product for as long as there is a valid patent claim under the patent rights. Neurogene is also required to reimburse any patent expenses, as well as pay a nonrefundable annual maintenance fee which, when royalties become due and payable, will be creditable against such royalties. During the year ended December 31, 2021, the FDA granted Orphan Drug Designation for CLN5 and the Company made a milestone payment of $15,000 to UNC. During the year ended December 31, 2022, the Company dosed its first patient in a Phase 1 CLN5 study and made a milestone payment of $30,000 to UNC. The annual license fee was $4,000 for each of the three months ended June 30, 2023 and 2022.

License Agreement with The University of Edinburgh

In January 2020, Neurogene entered into an Option Agreement (the "Edinburgh Option Agreement") with the University Court of the University of Edinburgh ("University of Edinburgh") for an option to license certain patents covering the EXACT technology (the "Licensed Technology"). To secure the option, Neurogene was solely required to pay the costs associated with the filing, preparing, prosecution and maintenance of the patents covering the Licensed Technology during the option period. Such expenses were immaterial for the year ended December 31, 2020. No other payments were payable under the Edinburgh Option Agreement. Neurogene subsequently exercised the option under the Edinburgh Option Agreement and then entered into the Master Collaboration Agreement ("MCA") discussed below, and which superseded the Edinburgh Option Agreement.

In December 2020, University of Edinburgh and Neurogene entered into the MCA. Under the MCA, Neurogene and the University of Edinburgh agreed to collaborate on certain research and development projects ("Projects") and Neurogene agreed to provide funding for such Projects for a 40-month initial term, which term may be extended by mutual agreement. In exchange for such funding, the University of Edinburgh granted Neurogene the option to exclusively license any intellectual property arising from such Projects. If Neurogene exercises an exclusive option for a particular Project, Neurogene will enter into a separate exclusive license agreement on its own terms with the University of Edinburgh. Under the MCA, Neurogene is obligated to pay semi-annual installment payments relating to funding of costs for personnel and lab consumables for the 40-month period. Either party may terminate the MCA for convenience upon 90 days' notice. If Neurogene terminates the MCA, it would be responsible for all non-cancellable costs and commitments related to any

particular Project and any and all funding costs for any person working on such Project. The expense recorded by the Company was $0.3 million for each of the three months ended June 30, 2023 and 2022 and was $0.6 million for each of the six months ended June 30, 2023 and 2022.

In March 2022, Neurogene exercised its option through the collaboration under the MCA, and entered into a License Agreement (the "March 2022 Edinburgh License Agreement") with University of Edinburgh, pursuant to which Neurogene licensed certain patents and know-how related to the EXACT technology and optimized MECP2 cassettes on an exclusive basis. Under the March 2022 Edinburgh License Agreement, Neurogene obtained an exclusive, worldwide license to the licensed patents to develop, manufacture, supply, sell, and commercialize any products that utilize the licensed patents (the "Licensed Products") in exchange for low single-digit percentage royalties on future commercial net sales of the Licensed Products. Royalties are payable on a Licensed Product-by-Licensed Product and country-by-country basis until the latest of the expiration of the last licensed patent covering such Licensed Product in the country where the Licensed Product is sold, or, if no licensed patent exists or has expired in such country, then ten years from first commercial sale of such Licensed Product in such country. In connection with the license, Neurogene is also obligated to pay the University of Edinburgh up to $5.25 million in regulatory-related milestones and up to $25 million in sales-related milestones based on annual net sales of Licensed Products in excess of defined thresholds. During the three months ended June 30, 2023, the Company accrued $0.3 million for a milestone related to the first patient in the Phase 1/2 Rett study.

License Agreement with Virovek

In September 2020, Neurogene entered into a Non-Exclusive License Agreement with Virovek, Inc., pursuant to which Neurogene has a license to use certain patents and know-how on a non-exclusive basis related to Neurogene's baculovirus ("baculo") process in exchange for low single-digit percentage royalties on future commercial net sales of each product using the baculo process, development milestone payments of up to $0.2 million in the aggregate, and a nonrefundable annual license fee. During the six months ended June 30, 2023, the Company recorded a milestone expense of $0.1 million for the Rett IND filing.

License Agreement with Sigma-Aldrich Co

In January 2023, Neurogene entered into a Non-Exclusive License Agreement with Sigma-Aldrich Co. LLC, pursuant to which Neurogene has a license to certain patents and know-how on a non-exclusive basis related to certain cell lines used in Neurogene's baculo process in exchange for a small annual fee on a product-by-product basis, payable once the first product candidate enters the clinic. In addition, on a product-by-product basis, Neurogene is obligated to pay up to $2.5 million in the aggregate for development-related milestones. During the three months ended June 30, 2023, the Company recorded the expense for the initial annual license fee of approximately $0.06 million.

No expenses were recorded related to other in-process license agreements during the three and six months ended June 30, 2023 and June 30, 2022, respectively. None will be due under these agreements unless and until certain development milestones are reached.

10. Stockholders' Deficit

Class A and Class B Common stock

The Company had reserved shares of Common Stock for future issuance as follows:

	June 30, 2023	December 31, 2022
Conversion of Series A-1	18,604,653	18,604,653
Conversion of Series A-2	13,291,208	13,291,208
Conversion of Series B	74,405,719	74,405,719
Total conversion of preferred stock	106,301,580	106,301,580
Options outstanding	8,135,030	6,198,849
Shares available for future grant under the 2018 Equity Incentive Plan	2,022,301	4,173,909
Total Common Stock reserved	116,458,911	116,674,338

11. Convertible Preferred Stock

Convertible Preferred Stock

On March 2, 2022 (the "Series B Extension"), the Company entered into the Series B Preferred Stock Purchase Agreement (the "2022 SPA") which provided for the purchase of 27,274,586 shares of Series B Preferred Stock, at $2.44/share (the "Series B Original Issue Price" or "Purchase Price"). During the six months ended June 30, 2022, the Company issued 27,274,586 Series B Preferred shares for net proceeds of approximately $66.5 million.

The Series A-1, A-2 and B Preferred Stock (collectively, "Preferred Stock") have the followings rights and privileges:

Dividends

The holders of Preferred Stock are entitled to receive non-cumulative dividends that shall accrue at the rate of $0.18/share per year, payable only when and if declared by the Board. The Company shall not declare, pay, or set aside any dividends on shares of any class of Common Stock (as defined below) unless the holders of the Preferred Stock shall first receive dividends on each outstanding share of Preferred Stock in the amount of the accrued dividends unpaid as of such date. As of June 30, 2023, no dividends have been declared.

Liquidation

In the event of any liquidation, dissolution, or winding-up of the Company, which would include the sale of the Company, the Preferred Stock is senior to Common Stock. The Preferred shareholders would be entitled to preferential payment in the amount per share equal to the greater of (i) the original issue price and accrued dividends declared and unpaid or (ii) the amount that would be due had all Preferred Stock been converted to Common Stock immediately prior to a deemed liquidation event. Upon payment of the preferred liquidation preference payments, the holders of Series A-1 and Common Stock participate on a pro-rata basis until the A-1 stockholders have received a liquidation preference amount of $5.38 per share of Series A-1. Any remaining distribution thereafter are distributed to holders of Common Stock.

Voting

The preferred stockholders are entitled to the number of votes equal to the number of Class A common stock into which the shares of Preferred Stock Series A and B held by each holder are then convertible.

Conversion

Each share of Preferred Stock is convertible at the option of the holder, at any time and from time to time, and without the payment of additional consideration by the holder. The class of Common Stock each share of

Preferred Stock is convertible is at the option of the holder. The number of Class A or Class B common stock into which the Preferred Stock converts is equal to the original issuance price (defined as $2.15 per share for the Series A and $2.44 per share for the Series B) divided by the conversion price. The conversion price shall initially be $2.15 per share for the Series A and $2.44 per share for the Series B and may be adjusted for certain dilutive events such as a down-round provision, stock splits and combinations, certain dividends and distributions or any merger or reorganization. Conversion to Class A common stock shall be mandatory upon the closing of an initial public offering resulting in net proceeds of at least $75.0 million for Series A and $50.0 million for Series B and at an offering price per share greater than or equal to $4.30 per share for Series A and $3.66 per share for Series B or upon the decision of the holders of at least a majority of the outstanding Preferred Stock shares. Prior to the Mandatory Conversion Time (as defined), a Preferred Stockholder may elect, upon written notice to the Company, to have all or a portion of its shares of Preferred Stock automatically convert into shares of Class B common stock at the then effective conversion rate.

Redemption

The Preferred Stock is subject to redemption under certain deemed liquidation events not solely within the control of the Company, as defined, and as such is considered contingently redeemable for accounting purposes and is classified as temporary equity in the Company's condensed balance sheets.

12. Stock-Based Compensation

The Company measures stock-based awards at their grant-date fair value and records compensation expense on a straight-line basis over the vesting period of the awards. The Company recorded stock-based compensation expense in the following expense categories in its accompanying statements of operations:

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	2023	2022	2023	2022
Research and development	$ 241	$ 176	$ 415	$ 351
General and administrative	143	133	262	267
Total expense	$ 384	$ 309	$ 677	$ 618

The following table summarizes the option activity under the Plan:

	Number of shares	Weighted average exercise price per share	Weighted average remaining contractual term (years)
Outstanding at December 31, 2022	6,198,849	$ 1.00	7.37
Granted	2,426,750	$ 1.43	—
Exercised	(215,427)	$ 0.61	—
Expired/Forfeited	(275,142)	$ 1.18	—
Outstanding at June 30, 2023	8,135,030	$ 1.16	7.57
Exercisable at June 30, 2023	3,448,079	$ 0.83	6.54

At June 30, 2023, the aggregate intrinsic value of outstanding options and exercisable options was approximately $2.7 million and $2.1 million, respectively. The aggregate intrinsic value of options exercised was approximately $0.2 million for the six months ended June 30, 2023.

The weighted-average grant date fair value of options granted was $0.98 and $1.11 per share for the six months ended June 30, 2023 and 2022, respectively. The Company recorded stock-based compensation related to stock

options of approximately $0.4 million and $0.2 million for the three months ended June 30, 2023 and 2022, respectively, and $0.7 million and $0.5 million for the six months ended June 30, 2023 and 2022, respectively. As of June 30, 2023, the total unrecognized compensation expense related to unvested stock option awards was approximately $3.9 million, which the Company expects to recognize over a weighted-average period of 2.9 years.

The fair value of each option was estimated on the grant date using the weighted average assumptions in the table below:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Expected volatility	83.20%-83.31%	—	82.96%-83.70%	71.71%
Risk-free interest rate	3.50%-3.68%	—	3.45%-4.46%	1.46%
Expected life (in years)	6.08	—	3.58-6.08	6.07
Expected dividend yield	—	—	—	—
Fair value of common stock	$ 1.39	$ —	$ 1.39	$ 1.53

Restricted Stock Awards

The Company granted shares of its restricted Class A common stock to certain of its employees in accordance with the terms of their restricted stock award agreements or RSA. The total shares vest over a period of four years.

The following table summarizes restricted Class A common stock activity:

	Number of shares	Weighted-average grant date fair value
Unvested balance at December 31, 2022	88,543	$ 0.44
Vested	(88,543)	$ 0.44
Unvested balance at June 30, 2023	—	$ —

13. Employee Retention Credit

Pursuant to the CARES Act, the Company is eligible for an employee retention credit subject to certain criteria. Since there are no generally accepted accounting principles for for-profit business entities that receive government assistance that is not in the form of a loan, an income tax credit or revenue from a contract with a customer, we determined the appropriate accounting treatment by analogy to other guidance. The Company accounted for the employee retention credit by analogy to International Accounting Standards (IAS) 20, Accounting for Government Grants and Disclosure of Government Assistance, of International Financial Reporting Standards (IFRS). Under an IAS 20 analogy, a business entity would recognize the employee retention credit on a systematic basis over the periods in which the entity recognizes the payroll expenses for which the grant (i.e., tax credit) is intended to compensate when there is reasonable assurance (i.e., it is probable) that the entity will comply with any conditions attached to the grant and the grant (i.e., tax credit) will be received. The Company accounted for and received approximately $0.5 million of employee retention credits during the three months ended June 30, 2023, which was recorded as a reduction of research and development expenses and general and administrative expenses on the statement of operations.

14. Subsequent Events

Our subsequent events were evaluated through August 18, 2023, the date to which these condensed financial statements were made available.

In July 2023, 862 shares of Class A Common Stock were issued upon option exercise.

In August 2023, 1,000 shares of Class A Common Stock were issued upon option exercise.

Annex A

AGREEMENT AND PLAN OF MERGER

among:

NEOLEUKIN THERAPEUTICS, INC.;

PROJECT NORTH MERGER SUB, INC.; and

NEUROGENE INC.

Dated as of July 17, 2023

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AGREEMENT AND PLAN OF MERGER

THIS AGREEMENT AND PLAN OF MERGER (this "**Agreement**") is made and entered into as of July 17, 2023, by and among **Neoleukin Therapeutics, Inc.**, a Delaware corporation ("**Parent**"), **Project North Merger Sub, Inc.**, a Delaware corporation and wholly owned subsidiary of Parent ("**Merger Sub**"), and **Neurogene Inc.**, a Delaware corporation (the "**Company**"). Certain capitalized terms used in this Agreement are defined in Section 1.

RECITALS

A. Parent and the Company intend to effect a merger of Merger Sub with and into the Company (the "**Merger**") in accordance with this Agreement and the DGCL. Upon consummation of the Merger, Merger Sub will cease to exist and the Company will become a wholly owned subsidiary of Parent.

B. The Parties intend that the Merger qualifies as a "reorganization" within the meaning of Section 368(a) of the Code and the Treasury Regulations, and that this Agreement be, and hereby is, adopted as a "plan of reorganization" for the purposes of Section 368 of the Code and Treasury Regulations Sections 1.368-2(g) and 1.368-3.

C. The Parent Board has (i) determined that the Contemplated Transactions are fair to, advisable and in the best interests of Parent and its stockholders, (ii) approved and declared advisable this Agreement and the Contemplated Transactions, including the issuance of shares of Parent Common Stock and Parent Pre-Funded Warrants to the stockholders of the Company pursuant to the terms of this Agreement and (iii) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholders of Parent vote to approve this Agreement and thereby approve the Contemplated Transactions, including the issuance of shares of Parent Common Stock and Parent Pre-Funded Warrants to the stockholders of the Company pursuant to the terms of this Agreement and, if deemed necessary by the Parties, an amendment to Parent's certificate of incorporation to effect the Nasdaq Reverse Split and/or increase the number of shares of Parent Common Stock, and against any competing proposals.

D. The Merger Sub Board has (i) determined that the Contemplated Transactions are fair to, advisable, and in the best interests of Merger Sub and its sole stockholder, (ii) approved and declared advisable this Agreement and the Contemplated Transactions and (iii) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholder of Merger Sub votes to adopt this Agreement and thereby approve the Contemplated Transactions.

E. The Company Board has (i) determined that the Contemplated Transactions are fair to, advisable and in the best interests of the Company and its stockholders, (ii) approved and declared advisable this Agreement and the Contemplated Transactions and (iii) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholders of the Company vote to adopt this Agreement and thereby approve the Contemplated Transactions.

F. Concurrently with the execution and delivery of this Agreement and as a condition and inducement to the Company's willingness to enter into this Agreement, each of the officers, directors and stockholders set forth on Section A of the Parent Disclosure Schedule (solely in their capacity as stockholders of Parent) are executing support agreements in favor of the Company in substantially the form attached hereto as Exhibit A-1 (the "**Parent Stockholder Support Agreement**"), pursuant to which such Persons have, subject to the terms and conditions set forth therein, agreed to vote all of their shares of capital stock of Parent in favor of the approval of this Agreement and thereby approve the Contemplated Transactions, and, if deemed necessary by Parent, an amendment to Parent's certificate of incorporation to effect the Nasdaq Reverse Split and/or increase the number of shares of Parent Common Stock, and against any competing proposals.

G. Concurrently with the execution and delivery of this Agreement and as a condition and inducement to Parent's willingness to enter into this Agreement, each of the officers, directors and stockholders of the Company listed on Section A of the Company Disclosure Schedule (solely in their capacity as stockholders of the Company) are executing support agreements in favor of Parent in substantially the form attached hereto as Exhibit A-2 (the "**Company Stockholder Support Agreement**"), pursuant to which such Persons have, subject to the terms and conditions set forth therein, agreed to vote all of their shares of Company Capital Stock in favor of the adoption of this Agreement, and thereby approve the Contemplated Transactions, and against any competing proposals.

H. Concurrently with the execution and delivery of this Agreement and as a condition and inducement to Parent's and the Company's willingness to enter into this Agreement, all of the stockholders of the Company or Parent listed on Section B of the Company Disclosure Schedule are executing lock-up agreements in substantially the form attached hereto as Exhibit B (the "**Lock-Up Agreement**," and collectively, the "**Lock-Up Agreements**").

I. It is expected that within two (2) Business Days after the Registration Statement is declared effective under the Securities Act, the holders of shares of Company Capital Stock sufficient to adopt and approve this Agreement and the Merger as required under the DGCL and the Company's certificate of incorporation and bylaws will execute and deliver an action by written consent adopting this Agreement, in form and substance reasonably acceptable to Parent, in order to obtain the Required Company Stockholder Vote.

J. Concurrently with the execution and delivery of this Agreement, certain investors have executed a Subscription Agreement in substantially the form attached hereto as Exhibit C among the Company and the Persons named therein (representing an aggregate commitment no less than the Concurrent Investment Amount) (the "**Subscription Agreement**"), pursuant to which such Persons will have agreed to purchase in the amounts set forth therein (i) shares of Company Common Stock and (ii) Company Pre-Funded Warrants, in each case, immediately prior to the Closing (the "**Company Pre-Closing Financing**").

AGREEMENT

The Parties, intending to be legally bound, agree as follows:

Section 1. Definitions and Interpretative Provisions.

1.1 Definitions.

(a) For purposes of this Agreement (including this Section 1):

"**Acceptable Confidentiality Agreement**" means a confidentiality agreement containing terms not materially less restrictive in the aggregate to the counterparty thereto than the terms of the Confidentiality Agreement, except such confidentiality agreement need not contain any standstill, non-solicitation or no hire provisions. Notwithstanding the foregoing, a Person who has previously entered into a confidentiality agreement with Parent relating to a potential Acquisition Proposal on terms that are not materially less restrictive than the Confidentiality Agreement with respect to the scope of coverage and restrictions on disclosure and use, shall not be required to enter into a new or revised confidentiality agreement, and such existing confidentiality agreement shall be deemed to be an Acceptable Confidentiality Agreement.

"**Acquisition Inquiry**" means, with respect to a Party, an inquiry, indication of interest or request for information (other than an inquiry, indication of interest or request for information made or submitted by the Company, on the one hand, or Parent, on the other hand, to the other Party) that could reasonably be expected to lead to an Acquisition Proposal.

"**Acquisition Proposal**" means, with respect to a Party, any offer or proposal, whether written or oral (other than an offer or proposal made or submitted by or on behalf of the Company or any of its Affiliates, on the one hand, or by or on behalf of Parent or any of its Affiliates, on the other hand, to the other Party) contemplating or otherwise relating to any Acquisition Transaction with such Party, other than any Parent Legacy Transaction and the Company Pre-Closing Financing.

"**Acquisition Transaction**" means any transaction or series of related transactions (other than any Parent Legacy Transaction) involving:

(a) any merger, consolidation, amalgamation, share exchange, business combination, issuance of securities, acquisition of securities, reorganization, recapitalization, tender offer, exchange offer or other similar transaction: (i) in which a Party is a constituent Entity, (ii) in which a Person or "group" (as defined in the Exchange Act and the rules promulgated thereunder) of Persons directly or indirectly acquires beneficial or record ownership of securities representing more than 20% of the outstanding securities of any class of voting securities of a Party or any of its Subsidiaries or (iii) in which a Party or any of its Subsidiaries issues securities representing more than 20% of the outstanding securities of any class of voting securities of such Party or any of its Subsidiaries; provided, however, in the case of the Company, the Company Pre-Closing Financing shall not be an Acquisition Transaction; or

(b) any sale, lease, exchange, transfer, license, acquisition or disposition of any business or businesses or assets that constitute or account for 20% or more of the consolidated book value or the fair market value of the assets of a Party and its Subsidiaries, taken as a whole.

"**Affiliate**" shall have the meaning given to such term in Rule 145 under the Securities Act.

"**Affordable Care Act**" means the Patient Protection and Affordable Care Act.

"**Allocation Percentage**" means, with respect to Parent, the Parent Allocation Percentage, and with respect to the Company, the Company Allocation Percentage.

"**Anticipated Closing Date**" means the anticipated Closing Date, as agreed upon by Parent and the Company.

"**Approved Reverse Split**" means the reverse stock split at a ratio of 1-for-5 that was approved at Parent's 2023 annual stockholder meeting.

"**BD CVR Holdback**" means $20,000.

"**Business Day**" means any day other than a day on which banks in the State of New York are authorized or obligated to be closed.

"**COBRA**" means the Consolidated Omnibus Budget Reconciliation Act of 1985, as set forth in Section 4980B of the Code and Section 6 of Title I of ERISA.

"**Code**" means the Internal Revenue Code of 1986, as amended.

"**Company Associate**" means any current employee, independent contractor, officer or director of the Company.

"**Company Board**" means the board of directors of the Company.

"**Company Capital Stock**" means the Company Common Stock and the Company Preferred Stock.

"**Company Capitalization Representations**" means the representations and warranties of the Company set forth in Sections 3.6(a) and 3.6(d).

"**Company Class A Common Stock**" means the Class A Common Stock, $0.0001 par value per share, of the Company.

"**Company Class B Common Stock**" means the Class B Common Stock, $0.0001 par value per share, of the Company.

"**Company Common Stock**" means Company Class A Common Stock and Company Class B Common Stock.

"**Company Contract**" means any Contract: (a) to which the Company is a Party, (b) by which the Company is or may become bound or under which the Company has, or may become subject to, any obligation or (c) under which the Company has or may acquire any right or interest.

"**Company Employee Plan**" means any Employee Plan that the Company or its ERISA Affiliates (a) sponsors, maintains, administers or contributes to, (b) provides benefits under or through, (c) has any obligation to contribute to or provide benefits under or through, (d) has or may reasonably be expected to have any Liability, or (e) utilizes to provide benefits to or otherwise cover any current or former employee, officer, director or other service provider of the Company (or their spouses, dependents, or beneficiaries).

"**Company Equity Incentive Plan**" means the Company's 2018 Equity Incentive Plan.

"**Company Fundamental Representations**" means the representations and warranties of the Company set forth in Sections 3.1(a), 3.1(b), 3.2, 3.3, 3.4 and 3.20.

"**Company IP Rights**" means all Intellectual Property owned, licensed, or controlled by the Company that is necessary for, or used or held for use in, the operation of the business of the Company as presently conducted.

"**Company IP Rights Agreement**" means any Contract governing, related to or pertaining to any Company IP Rights other than any confidential information provided under confidentiality agreements.

"**Company Key Employee**" means any executive officer of the Company.

"**Company Material Adverse Effect**" means any Effect that, considered together with all other Effects that have occurred prior to the date of determination of the occurrence of a Company Material Adverse Effect, has or would reasonably be expected to have a material adverse effect on the business, financial condition, assets, liabilities or results of operations of the Company; provided, however, that Effects arising or resulting from the following shall not be taken into account in determining whether there has been a Company Material Adverse Effect: (a) the announcement of this Agreement or the pendency of the Contemplated Transactions, (b) the taking of any action, or the failure to take any action, by the Company that is required to comply with the terms of this Agreement, (c) any natural disaster, calamity or epidemics, pandemics (including COVID-19 and any precautionary or emergency measures, recommendations, protocols or orders taken or issued by any Person in response to COVID-19) or other force majeure events, or any act or threat of terrorism or war, any armed hostilities or terrorist activities (including any escalation or general worsening of any of the foregoing) anywhere in the world or any governmental or other response or reaction to any of the foregoing, (d) any change in GAAP or applicable Law or the interpretation thereof, (e) general economic or political conditions or conditions generally affecting the industries in which the Company operates or (f) any change in the cash position of the Company which results from operations in the Ordinary Course of Business; except in each case with respect to clauses (c), (d) and (e), to the extent disproportionately affecting the Company relative to other similarly situated companies in the industries in which the Company operates.

"**Company Merger Shares**" means the product determined by *multiplying* (i) the Post-Closing Parent Shares *by* (ii) the Company Allocation Percentage, in which:

- "**Aggregate Valuation**" means the sum of (i) the Company Valuation *plus* (ii) the Parent Valuation.
- "**Company Allocation Percentage**" means the percentage (rounded to four decimal places) determined by *subtracting* (i) the Parent Allocation Percentage *from* (ii) 100 percent.
- "**Company Equity Value**" means $200,000,000.
- "**Company Outstanding Shares**" means, subject to Section 2.5(f) and the immediately following sentence, the total number of shares of Company Capital Stock outstanding immediately prior to the Effective Time, including shares of Company Common Stock and shares of Company Common Stock underlying any Company Pre-Funded Warrant, in each case, issued in connection with the Company Pre-Closing Financing, expressed on a fully diluted and as-converted to Company Common Stock basis and using the treasury stock method, assuming, without limitation or duplication, (i) the exercise of all Company Options, Company Restricted Stock Units and other derivative securities of the Company outstanding as of immediately prior to the Effective Time and (ii) that the valuation of the Company is the Company Valuation. No out-of-the money Company Options shall be included in the total number of shares of Company Capital Stock outstanding for purposes of determining the Company Outstanding Shares.
- "**Company Valuation**" means the Company Equity Value *plus* the amount of the gross cash proceeds from the Company Pre-Closing Financing.
- "**Exchange Ratio**" means the ratio (rounded to four decimal places) equal to the quotient obtained by *dividing* (i) the Company Merger Shares *by* (ii) the Company Outstanding Shares.
- "**Parent Allocation Percentage**" means the quotient (expressed as a percentage and rounded to four decimal places) determined by *dividing* (i) the Parent Valuation *by* (ii) the Aggregate Valuation.
- "**Parent Equity Value**" means $76.0 million *minus* the Parent Lease Obligation.
- "**Parent Net Cash Adjustment Amount**" means a number (which may be positive or negative) equal to (i) Parent Net Cash *minus* (ii) Target Parent Net Cash.
- "**Parent Outstanding Shares**" means, subject to Section 2.5(f) and the immediately following sentence, the total number of shares of Parent Common Stock outstanding immediately prior to the Effective Time expressed on a fully-diluted basis and using the treasury stock method, but assuming, without limitation or duplication, (i) the issuance of shares of Parent Common Stock in respect of all Parent Options, Parent Warrants, Parent Restricted Stock Units, and any other outstanding options, warrants or rights to receive such shares, in each case, outstanding as of immediately prior to the Effective Time (assuming cashless exercise and using the Parent Valuation), whether conditional or unconditional, and (ii) that the value of a share of Parent Common Stock equals the Five-Day VWAP as of five (5) Business Days before the Closing. No out-of-the-money Parent Options or Parent Warrants shall be included in the total number of shares of Parent Common Stock outstanding for purposes of determining the Parent Outstanding Shares.
- "**Parent Valuation**" means (i) Parent Equity Value *plus* (ii) Parent Net Cash Adjustment Amount.
- "**Post-Closing Parent Shares**" mean the quotient determined by *dividing* (i) the Parent Outstanding Shares *by* (ii) the Parent Allocation Percentage.
- "**Target Parent Net Cash**" means $66.0 million.

"**Company Options**" means options or other rights to purchase shares of Company Capital Stock issued by the Company.

"**Company Preferred Stock**" means Company Series A-1 Preferred Stock, Company Series A-2 Preferred Stock and Company Series B Preferred Stock.

"**Company Pre-Funded Warrants**" means pre-funded warrants to purchase shares of Company Capital Stock and issued by the Company pursuant to the Company Pre-Closing Financing.

"**Company Registered IP**" means all Company IP Rights that are owned or exclusively licensed by the Company that are registered, filed or issued under the authority of, with or by any Governmental Authority, including all Patents, registered copyrights and registered trademarks and all applications and registrations for any of the foregoing.

"**Company Restricted Stock Units**" means any equity award with respect to Company Common Stock that represents the right to receive in the future shares of Company Common Stock pursuant to the Company Equity Incentive Plan.

"**Company Series A-1 Preferred Stock**" means a series of the preferred stock designated as Series A-1 Preferred Stock, $0.0001 par value per share, of the Company.

"**Company Series A-2 Preferred Stock**" means a series of the preferred stock designated as Series A-2 Preferred Stock, $0.0001 par value per share, of the Company.

"**Company Series B Preferred Stock**" means a series of the preferred stock designated as Series B Preferred Stock, $0.0001 par value per share, of the Company.

"**Company Triggering Event**" shall be deemed to have occurred if: (a) the Company Board shall have made a Company Board Adverse Recommendation Change; (b) the Company Board or any committee thereof shall have publicly approved, endorsed or recommended any Acquisition Proposal; or (c) the Company shall have entered into any letter of intent or similar document or any Contract relating to any Acquisition Proposal.

"**Concurrent Investment Amount**" means $75,000,000.

"**Confidentiality Agreement**" means the Confidentiality Agreement dated March 17, 2023, between the Company and Parent.

"**Consent**" means any approval, consent, ratification, permission, waiver or authorization (including any Governmental Authorization).

"**Contemplated Transactions**" means the Merger and the other transactions contemplated by this Agreement, including the CVR Agreement, the Company Pre-Closing Financing and the Nasdaq Reverse Split (to the extent applicable and deemed necessary by Parent and the Company).

"**Contract**" means, with respect to any Person, any written agreement, contract, subcontract, lease (whether for real or personal property), mortgage, license, or other legally binding commitment or undertaking of any nature to which such Person is a party or by which such Person or any of its assets are bound or affected under applicable Law.

"**DGCL**" means the General Corporation Law of the State of Delaware.

"**Effect**" means any effect, change, event, circumstance, or development.

"**Employee Plan**" means (a) an "employee benefit plan" within the meaning of Section 3(3) of ERISA whether or not subject to ERISA; (b) a program, other plan, policy or arrangement providing for stock options, stock purchases, phantom stock or other equity-based compensation, bonuses (including any annual bonuses and retention bonuses) or other incentives, severance pay, deferred compensation, employment, compensation, change in control or transaction bonuses, supplemental, vacation, holiday pay, paid time off, savings, retirement

benefits (including post-retirement health and welfare benefits), pension benefits, profit-sharing benefits, fringe benefits, life insurance benefits, perquisites, health benefits, medical benefits, dental benefits, vision benefits, disability benefits, dependent care and all other similar fringe, welfare or other employee benefit plans, programs, practices, agreements (including employment and consulting agreements), and arrangements, not described in (a) above; and (c) all other plans, programs, policies or arrangements providing compensation to employees, consultants and non-employee directors, but excluding any government-sponsored or statutorily-mandated plans, programs or arrangements.

"**Encumbrance**" means any lien, pledge, hypothecation, charge, mortgage, security interest, lease, exclusive license, option, easement, reservation, servitude, adverse title, claim, infringement, interference, option, right of first refusal, preemptive right, community property interest or restriction or encumbrance of any nature (including any restriction on the voting of any security, any restriction on the transfer of any security or other asset, any restriction on the receipt of any income derived from any asset, any restriction on the use of any asset and any restriction on the possession, exercise or transfer of any other attribute of ownership of any asset).

"**Enforceability Exceptions**" means the (a) Laws of general application relating to bankruptcy, insolvency and the relief of debtors and (b) rules of law governing specific performance, injunctive relief and other equitable remedies.

"**Entity**" means any corporation (including any nonprofit corporation), partnership (including any general partnership, limited partnership or limited liability partnership), joint venture, estate, trust, company (including any company limited by shares, limited liability company or joint stock company), firm, society or other enterprise, association, organization or entity, and each of its successors.

"**Environmental Law**" means any federal, state, local or foreign Law relating to pollution or protection of human health or the environment (including ambient air, surface water, ground water, land surface or subsurface strata), including any law or regulation relating to emissions, discharges, releases or threatened releases of Hazardous Materials, or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials.

"**ERISA**" means the Employee Retirement Income Security Act of 1974, as amended.

"**ERISA Affiliate**" means, any trade or business, whether or not incorporated, under common control with the Company, Parent or any of their Subsidiaries and that, together with the Company, Parent or any of their Subsidiaries, that would be treated as a single employer under Sections 414(b), (c), (m) or (o) of the Code.

"**Exchange Act**" means the Securities Exchange Act of 1934, as amended.

"**Five-Day VWAP**" means, as of any date of determination, the volume weighted average price of shares of Parent Common Stock for the five (5) consecutive trading days ending on the first trading day immediately preceding such date of determination.

"**Governmental Authority**" means any: (a) nation, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature, (b) federal, state, local, municipal, foreign, supra-national or other government, (c) governmental or quasi-governmental authority of any nature (including any governmental division, department, agency, commission, bureau, instrumentality, official, ministry, fund, foundation, center, organization, unit, body or Entity and any court or other tribunal, and for the avoidance of doubt, any taxing authority) or (d) self-regulatory organization (including Nasdaq and FINRA).

"**Governmental Authorization**" means any: (a) permit, license, certificate, franchise, permission, variance, exception, order, approval, clearance, registration, qualification or authorization issued, granted, given or otherwise made available by or under the authority of any Governmental Authority or pursuant to any Law or (b) right under any Contract with any Governmental Authority.

"**Hazardous Materials**" means any pollutant, chemical, or substance, and any toxic, infectious, carcinogenic, reactive, corrosive, ignitable or flammable chemical, or chemical compound, or hazardous substance, material or waste, whether solid, liquid or gas, that is subject to regulation, control or remediation under any Environmental Law, including without limitation, crude oil or any fraction thereof, and petroleum products or by-products.

"**Intellectual Property**" means: (a) United States, foreign and international patents, patent applications, including all provisionals, nonprovisionals, substitutions, divisionals, continuations, continuations-in-part, reissues, extensions, supplementary protection certificates, reexaminations, term extensions, certificates of invention and the equivalents of any of the foregoing, statutory invention registrations, invention disclosures and inventions (collectively, "**Patents**"), (b) trademarks, service marks, trade names, domain names, corporate names, brand names, URLs, trade dress, logos and other source identifiers, including registrations and applications for registration thereof and goodwill associated therewith, (c) copyrights, including registrations and applications for registration thereof, (d) software, including all source code, object code and related documentation, (e) formulae, customer lists, trade secrets, know-how, confidential information and other proprietary rights and intellectual property, whether patentable or not, and (f) all United States and foreign rights arising under or associated with any of the foregoing.

"**IRS**" means the United States Internal Revenue Service.

"**Knowledge**" means, with respect to an individual, that such individual is actually aware of the relevant fact or such individual would reasonably be expected to know such fact in the ordinary course of the performance of such individual's employment responsibilities. Any Person that is an Entity shall have Knowledge if any executive officer or director of such Person as of the date such knowledge is imputed has or should reasonably be expected to have Knowledge of such fact or other matter. With respect to any matters relating to Intellectual Property, such awareness or reasonable expectation to have knowledge does not require any such individual to conduct or have conducted or obtain or have obtained any freedom to operate opinions of counsel or any Intellectual Property rights clearance searches.

"**Law**" means any federal, state, national, supra-national, foreign, local or municipal or other law, statute, constitution, principle of common law, resolution, ordinance, code, edict, decree, rule, regulation, ruling or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Authority (including under the authority of Nasdaq or the Financial Industry Regulatory Authority).

"**Lease Negotiation Holdback**" means an amount that is no less than $100,000 and no more than $200,000, as determined by Parent.

"**Legal Proceeding**" means any action, suit, litigation, arbitration, proceeding (including any civil, criminal, administrative, investigative or appellate proceeding), hearing, inquiry, audit, examination or investigation commenced, brought, conducted or heard by or before, or otherwise involving, any court or other Governmental Authority or any arbitrator or arbitration panel.

"**Merger Sub Board**" means the board of directors of Merger Sub.

"**Multiemployer Plan**" means a "multiemployer plan," as defined in Section 3(37) or 4001(a)(3) of ERISA.

"**Multiple Employer Plan**" means a "multiple employer plan" within the meaning of Section 413(c) of the Code or Sections 3(40), 4063 or 4064 of ERISA.

"**Multiple Employer Welfare Arrangement**" means a "multiple employer welfare arrangement" within the meaning of Section 3(40) of ERISA.

"**Nasdaq**" means The Nasdaq Stock Market.

"**Nasdaq Reverse Split**" means a reverse stock split of all outstanding shares of Parent Common Stock effected by Parent pursuant to mutual agreement between Parent and the Company for the purpose of maintaining compliance with Nasdaq listing standards, other than the Approved Reverse Split.

"**Order**" means any judgment, order, writ, injunction, ruling, decision or decree of (that is binding on a Party), or any plea agreement, corporate integrity agreement, resolution agreement or deferred prosecution agreement with, or any settlement under the jurisdiction of, any court or Governmental Authority.

"**Ordinary Course of Business**" means, in the case of each of the Company and Parent, such actions taken in the ordinary course of its normal operations and consistent with its past practices.

"**Organizational Documents**" means, with respect to any Person (other than an individual), (a) the certificate or articles of association or incorporation or organization or limited partnership or limited liability company, and any joint venture, limited liability company, operating or partnership agreement and other similar documents adopted or filed in connection with the creation, formation or organization of such Person and (b) all bylaws, regulations and similar documents or agreements relating to the organization or governance of such Person, in each case, as amended or supplemented.

"**Parent Associate**" means any current employee, independent contractor, officer or director of Parent or its Subsidiary.

"**Parent Balance Sheet**" means the balance sheet of Parent as of March 31, 2023, included in Parent's Report on Form 10-Q for the quarter ended March 31, 2023, as filed with the SEC.

"**Parent Board**" means the board of directors of Parent.

"**Parent Capitalization Representations**" means the representations and warranties of Parent and Merger Sub set forth in Sections 4.6(a) and 4.6(d).

"**Parent Common Stock**" means the common stock, $0.000001 par value per share, of Parent.

"**Parent Contract**" means any Contract: (a) to which Parent is a party, (b) by which Parent or any Parent IP Rights or any other asset of Parent is or may become bound or under which Parent has, or may become subject to, any obligation or (c) under which Parent has or may acquire any right or interest.

"**Parent Employee Plan**" means any Employee Plan that Parent or its Subsidiary or their ERISA Affiliates (a) sponsors, maintains, administers, or contributes to, (b) provides benefits under or through, (c) has any obligation to contribute to or provide benefits under or through, (d) has or may reasonably be expected to have any Liability, or (e) utilizes to provide benefits to or otherwise cover any current or former employee, officer, director or other service provider of Parent or its Subsidiary (or their spouses, dependents, or beneficiaries).

"**Parent Fundamental Representations**" means the representations and warranties of Parent and Merger Sub set forth in Sections 4.1(a), 4.1(b), 4.2, 4.3, 4.4 and 4.21.

"**Parent IP Rights**" means all Intellectual Property owned, licensed or controlled by Parent that is necessary for, or used or held for use in, the operation of the business of Parent.

"**Parent IP Rights Agreement**" means any Contract governing, related or pertaining to any Parent IP Rights.

"**Parent Key Employee**" means an executive officer of Parent.

"**Parent Lease Agreements**" means (a) that certain Lease Agreement by and between Parent and ("**ARE-Eastlake No. 3**"), dated December 23, 2019, as amended by that certain First Amendment to Lease by and between Parent and ARE-Seattle No. 28, LLC, dated November 5, 2020 for 188 East Blaine Street, Seattle, WA 98102, and (b) that certain Lease Agreement by and between Parent and ARE-Eastlake No. 3, dated September 23, 2019, as amended by that certain First Amendment to Lease by and between Parent and ARE-Eastlake No. 3, dated June 18, 2020, and that certain Second Amendment to Lease by and between Parent and ARE-Eastlake No. 3, dated March 16, 2021 for 1616 Eastlake Avenue East, Seattle, Washington 98102.

"**Parent Lease Letter of Credit**" means the letter of credit associated with the Parent Lease Agreements and set forth on Section 1.1(a)-1 of the Parent Disclosure Schedule.

"**Parent Lease Obligation**" means, in the event the Parent Lease Agreements are not terminated or assigned in whole or in part to a third party with no continuing payment or other obligations on the part of Parent or the Surviving Corporation before the Closing Date, an amount equal to the value at the Effective Time of Parent's remaining rent obligations under the Parent Lease Agreements as of the Closing Date. For illustrative purposes, Section 1.1(a)-2 of the Parent Disclosure Schedule sets forth the anticipated amount of the Parent Lease Obligation on a month-by-month basis through October 2023.

"**Parent Legacy Business**" means the business of Parent as conducted at any time prior to the date of this Agreement, including but not limited to business related to the assets listed on Section 1.1(a)-3 of the Parent Disclosure Schedule.

"**Parent Material Adverse Effect**" means any Effect that, considered together with all other Effects that have occurred prior to the date of determination of the occurrence of the Parent Material Adverse Effect, has or would reasonably be expected to have a material adverse effect on the business, financial condition, assets, liabilities or results of operations of Parent or its Subsidiary, taken as a whole; provided, however, that Effects arising or resulting from the following shall not be taken into account in determining whether there has been a Parent Material Adverse Effect: (a) the announcement of this Agreement or the pendency of the Contemplated Transactions, (b) any change in the stock price or trading volume of Parent Common Stock (it being understood, however, that any Effect causing or contributing to any change in stock price or trading volume of Parent Common Stock may be taken into account in determining whether a Parent Material Adverse Effect has occurred, unless such Effects are otherwise excepted from this definition), (c) the taking of any action, or the failure to take any action, by Parent that is required to comply with the terms of this Agreement, (d) any natural disaster, calamity or epidemics, pandemics (including COVID-19 and any precautionary or emergency measures, recommendations, protocols or orders taken or issued by any Person in response to COVID-19) or other force majeure events, or any act or threat of terrorism or war, any armed hostilities or terrorist activities (including any escalation or general worsening of any of the foregoing) anywhere in the world, or any governmental or other response or reaction to any of the foregoing, (e) any change in GAAP or applicable Law or the interpretation thereof or (f) general economic or political conditions or conditions generally affecting the industries in which Parent or its Subsidiary operates; except, in each case with respect to clauses (d), (e) and (f), to the extent materially and disproportionately affecting Parent and its Subsidiary, taken as a whole, relative to other similarly situated companies in the industries in which Parent or its Subsidiary operates. Notwithstanding the above, a delisting of Parent Common Stock on Nasdaq shall constitute a Parent Material Adverse Effect, provided that the Company has not refused or unreasonably delayed its consent to reasonable actions by Parent to maintain the listing of Parent Common Stock on Nasdaq.

"**Parent Net Cash**" means without duplication, (i) Parent's unrestricted cash and cash equivalents and marketable securities, in each case as of the Closing Date, to the extent in accordance with GAAP, in a manner consistent with the manner in which such items were historically determined and in accordance with the financial statements (including any related notes) contained or incorporated by reference in the Parent SEC Documents and the Parent Balance Sheet, *plus* (ii) all prepaid expenses, receivables, deposits and restricted cash (which, for the avoidance of doubt, shall include any restricted cash underlying the Parent Lease Letter of Credit), *plus*

(iii) any net proceeds due to Parent or its Subsidiary at Closing or, as mutually agreed in good faith, otherwise in connection with any Parent Legacy Transaction (in each case, net of any indemnification obligations, expenses, fees, Taxes accrued or payable by Parent or its Subsidiary that are attributable to such Parent Legacy Transaction), *minus* (iv) the sum of Parent's consolidated short-term and long-term contractual obligations and liabilities accrued at the Closing Date (other than any liability accrued with respect to obligations pursuant to the Parent Lease Agreements), in each case determined in accordance with GAAP and, to the extent in accordance with GAAP, in a manner consistent with the manner in which such items were historically determined and in accordance with the financial statements (including any related notes) contained or incorporated by reference in the Parent SEC Documents and the Parent Balance Sheet (which, for the avoidance of doubt, shall include anticipated costs with respect to the winding down of the NL-201 clinical trial, without duplication, net of any deposits made in connection with such activities), *minus* (v) fees and expenses incurred with respect to the Contemplated Transactions payable by Parent or its Subsidiary, including for the avoidance of doubt, the Transaction Expenses of Parent to the extent unpaid as of the Closing and the fees and expenses underlying any engagements set forth on Section 4.21 of the Parent Disclosure Schedule, *minus* (vi) the aggregate costs associated with obtaining the "D&O tail policy" pursuant to Section 6.8, *minus* (vii) the Lease Negotiation Holdback, *minus* (viii) the BD CVR Holdback. For the avoidance of doubt, Parent Net Cash shall not be reduced by, and shall be determined prior to giving effect to, any withholding or taxes payable by Parent in connection with the settlement of Parent Restricted Stock Units as provided in Section 6.7(a).

"**Parent Options**" means options or other rights to purchase shares of Parent Common Stock granted by Parent, including pursuant to any Parent Stock Plan.

"**Parent Preferred Stock**" means the preferred stock, $0.000001 par value per share, of Parent.

"**Parent Registered IP**" means all Parent IP Rights that are owned or exclusively licensed by Parent that are registered, filed or issued under the authority of, with or by any Governmental Authority, including all Patents, registered copyrights and registered trademarks and all applications for any of the foregoing.

"**Parent Restricted Stock Units**" means any equity award with respect to Parent Common Stock that represents the right to receive in the future shares of Parent Common Stock pursuant to any Parent Stock Plan.

"**Parent Triggering Event**" shall be deemed to have occurred if: (a) Parent shall have failed to include in the Proxy Statement the Parent Board Recommendation, (b) the Parent Board or any committee thereof shall have made a Parent Board Adverse Recommendation Change or approved, endorsed or recommended any Acquisition Proposal or (c) Parent shall have entered into any letter of intent or similar document or any Contract relating to any Acquisition Proposal (other than an Acceptable Confidentiality Agreement permitted pursuant to Section 5.4).

"**Party**" or "**Parties**" means the Company, Merger Sub and Parent.

"**PCAOB**" means the Public Company Accounting Oversight Board and any division or subdivision thereof.

"**Permitted Alternative Agreement**" means a definitive agreement that contemplates or otherwise relates to an Acquisition Transaction that constitutes a Superior Offer.

"**Permitted Encumbrance**" means (a) any statutory liens for current Taxes not yet due and payable or for Taxes that are being contested in good faith by the appropriate proceedings and for which adequate reserves have been made on the Company Balance Sheet or the Parent Balance Sheet, as applicable, in accordance with GAAP, (b) minor liens that have arisen in the Ordinary Course of Business and that do not (in any case or in the aggregate) materially detract from the value of the assets subject thereto or materially impair the operations of the Company or Parent, as applicable, (c) statutory liens to secure obligations to landlords, lessors or renters under leases or rental agreements, (d) deposits or pledges made in connection with, or to secure payment of,

workers' compensation, unemployment insurance or similar programs mandated by Law, (e) statutory liens in favor of carriers, warehousemen, mechanics and materialmen, to secure claims for labor, materials or supplies and (f) liens arising under applicable securities Law.

"**Person**" means any individual, Entity or Governmental Authority.

"**Personal Information**" means data and information concerning an identifiable natural person.

"**Privacy Laws**" mean, collectively, (a) all applicable Laws relating to data privacy, data protection, data security, trans-border data flow, data loss, data theft or breach notification with respect to the collection, handling, use, processing, maintenance, storage, disclosure or transfer of Personal Information enacted, adopted, promulgated or applied by any Governmental Authority, including the applicable legally binding requirements set forth in applicable regulations and agreements containing consent orders published by regulatory authorities of competent jurisdiction such as, as applicable, the U.S. Federal Trade Commission, U.S. Federal Communications Commission, and state data protection authorities, including but not limited to HIPAA; (b) the internal privacy policy of the Company and any public statements that the Company has made regarding its privacy policies and practices; (c) third party privacy policies with which the Company has been or is contractually obligated to comply; and (d) any applicable rules of any applicable self-regulatory organizations in which the Company is or has been a member and/or with which the Company is or has been contractually obligated to comply relating to data privacy, data protection, data security, trans-border data flow, data loss, data theft or breach notification with respect to the collection, handling, use, processing, maintenance, storage, disclosure or transfer of Personal Information.

"**Representatives**" means directors, officers, employees, agents, attorneys, accountants, investment bankers, advisors and representatives.

"**Sarbanes-Oxley Act**" means the Sarbanes-Oxley Act of 2002.

"**SEC**" means the United States Securities and Exchange Commission.

"**Securities Act**" means the Securities Act of 1933, as amended.

"**Subsequent Transaction**" means any Acquisition Transaction (with all references to 20% in the definition of Acquisition Transaction being treated as references to 50% for these purposes).

"**Subsidiary**" means, with respect to an Entity, a Person if such Person directly or indirectly owns or purports to own, beneficially or of record, (a) an amount of voting securities or other interests in such Entity that is sufficient to enable such Person to elect at least a majority of the members of such Entity's board of directors or other governing body or (b) at least 50% of the outstanding equity, voting, beneficial or financial interests in such Entity.

"**Superior Offer**" means an unsolicited, bona fide, written Acquisition Proposal (with all references to 20% in the definition of Acquisition Transaction being treated as references to 50% for these purposes) that: (a) was not obtained or made as a direct or indirect result of a breach of (or in violation of) this Agreement, (b) is on terms and conditions that the Parent Board or the Company Board, as applicable, determines in good faith, based on such matters that it deems relevant (including the likelihood of consummation thereof and the financing terms thereof), as well as any written offer by the other Party to this Agreement to amend the terms of this Agreement, and following consultation with its outside legal counsel and financial advisors, if any, are more favorable, from a financial point of view, to Parent's stockholders or the Company's stockholders, as applicable, than the terms of the Contemplated Transactions, (c) is not subject to any financing conditions (and if financing is required, such financing is then fully committed to the third party) and (d) is reasonably capable of being completed on the terms proposed without unreasonable delay.

"**Tax**" means any U.S. federal, state, local, foreign or other tax, including any income tax, franchise tax, capital gains tax, gross receipts tax, value-added tax, surtax, estimated tax, employment tax, unemployment tax, national health insurance tax, environmental tax, excise tax, ad valorem tax, transfer tax, conveyance tax, stamp tax, sales tax, use tax, property tax, business tax, withholding tax, payroll tax, social security tax, customs duty, licenses tax, alternative or add-on minimum or other tax or similar charge, duty, levy, fee, tariff, impost, obligation or assessment in the nature of a tax (whether imposed directly or through withholding and whether or not disputed), and including any fine, penalty, addition to tax, interest or additional amount imposed by a Governmental Authority with respect thereto (or attributable to the nonpayment thereof).

"**Tax Return**" means any return (including any information return), report, statement, declaration, claim or refund, estimate, schedule, notice, notification, form, election, certificate or other document or information, and any amendment or supplement to any of the foregoing, filed or required to be filed with any Governmental Authority (or provided to a payee) in connection with the determination, assessment, collection or payment of any Tax or in connection with the administration, implementation or enforcement of or compliance with any Law relating to any Tax.

"**Transaction Expenses**" means, subject to Section 10.3(a), with respect to a Party, the aggregate amount (without duplication) of all costs, fees and expenses incurred by such Party or any of its Subsidiaries (including Merger Sub) prior to Closing, or for which such Party or any of its Subsidiaries are liable at Closing in connection with the Contemplated Transactions and the negotiation, preparation and execution of this Agreement or any other agreement, document, instrument, filing, certificate, schedule, exhibit, letter or other document prepared or executed in connection with the Contemplated Transactions, including (a) any fees and expenses of legal counsel and accountants, the maximum amount of fees and expenses payable to financial advisors, investment bankers, brokers, consultants, tax advisors, transfer agents, proxy solicitor and other advisors of such Party; (b) a percentage equal to such Party's Allocation Percentage of the fees paid to the SEC in connection with filing the Registration Statement, the Proxy Statement, and any amendments and supplements thereto, with the SEC; (c) a percentage equal to such Party's Allocation Percentage of the fees and expenses in connection with the printing, mailing and distribution of the Registration Statement and any amendments and supplements thereto; (d) a percentage equal to such Party's Allocation Percentage of the Nasdaq Fees; (e) the CVR Fees; and (f) any bonus, retention payments, severance, change-in-control payments or similar payment obligations (including payments with "single-trigger" provisions triggered at and as of the consummation of the transactions contemplated hereby, but not any obligations triggered by termination of employment after Closing) that become due or payable to any director, officer, employee or consultant at Closing in connection with the consummation of the Contemplated Transactions, together with any payroll Taxes associated therewith; provided, that, Transaction Expenses shall not include any costs, fees or expenses (i) associated with the obtainment of directors and officers insurance pursuant to Section 6.8, or (ii) associated with post-Closing operations, any administration under the CVR Agreement, accounting or SEC reporting, whether incurred prior to or after Closing.

"**Treasury Regulations**" means the United States Treasury regulations promulgated under the Code.

(b) Each of the following terms is defined in the Section set forth opposite such term:

1.2 Other Definitional and Interpretative Provisions. The words “hereof,” “herein” and “hereunder” and words of like import used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. The captions herein are included for convenience of reference only and shall be ignored in the construction or interpretation hereof. References to Sections, Exhibits and Schedules are to

Sections, Exhibits and Schedules of this Agreement unless otherwise specified. Any capitalized terms used in any Exhibit or Schedule but not otherwise defined therein shall have the meaning as defined in this Agreement. Any singular term in this Agreement shall be deemed to include the plural, and any plural term the singular, the masculine gender shall include the feminine and neuter genders; the feminine gender shall include the masculine and neuter genders; and the neuter gender shall include masculine and feminine gender. Whenever the words "include," "includes" or "including" are used in this Agreement, they shall be deemed to be followed by the words "without limitation," whether or not they are in fact followed by those words or words of like import. The word "or" is not exclusive. "Writing," "written" and comparable terms refer to printing, typing and other means of reproducing words (including electronic media) in a visible form. References to any agreement or Contract are to that agreement or Contract as amended, modified or supplemented from time to time in accordance with the terms hereof and thereof. References to any Person include the successors and permitted assigns of that Person. References to any statute are to that statute and to the rules and regulations promulgated thereunder, in each case as amended, modified, re-enacted thereof, substituted, from time to time. References to "$" and "dollars" are to the currency of the United States. All accounting terms used herein will be interpreted, and all accounting determinations hereunder will be made, in accordance with GAAP unless otherwise expressly specified. References from or through any date shall mean, unless otherwise specified, from and including or through and including, respectively. All references to "days" shall be to calendar days unless otherwise indicated as a "Business Day." Except as otherwise specifically indicated, for purposes of measuring the beginning and ending of time periods in this Agreement (including for purposes of "Business Day" and for hours in a day or Business Day), the time at which a thing, occurrence or event shall begin or end shall be deemed to occur in the Eastern time zone of the United States. The Parties agree that any rule of construction to the effect that ambiguities are to be resolved against the drafting Party shall not be applied in the construction or interpretation of this Agreement. The Parties agree that the Company Disclosure Schedule or Parent Disclosure Schedule shall be arranged in sections and subsections corresponding to the numbered and lettered sections and subsections contained in Section 3 or Section 4, respectively. The disclosures in any section or subsection of the Company Disclosure Schedule or the Parent Disclosure Schedule shall qualify other sections and subsections in Section 3 or Section 4, respectively, to the extent it is readily apparent from a reading of the disclosure that such disclosure is applicable to such other sections and subsections. The words "delivered" or "made available" mean, with respect to any documentation, (a) that prior to 5:00 p.m. (New York City time) on the date that is the day prior to the date of this Agreement, a copy of such material has been posted to and made available by a Party to the other Party and its Representatives in the electronic data room maintained by such disclosing Party for the purposes of the Contemplated Transactions or (b) delivered by or on behalf of a Party or its Representatives to the other Party or its Representatives via electronic mail or in hard copy form prior to the execution of this Agreement.

Section 2. Description of Transaction.

2.1 The Merger. Upon the terms and subject to the conditions set forth in this Agreement, at the Effective Time, Merger Sub shall be merged with and into the Company, and the separate existence of Merger Sub shall cease. The Company will continue as the surviving corporation in the Merger (the "**Surviving Corporation**").

2.2 Effects of the Merger. The Merger shall have the effects set forth in this Agreement, the Certificate of Merger, and in the applicable provisions of the DGCL. As a result of the Merger, the Company will become a wholly owned subsidiary of Parent.

2.3 Closing; Effective Time. Unless this Agreement is earlier terminated pursuant to the provisions of Section 10.1, and subject to the satisfaction or waiver of the conditions set forth in Section 6, Section 7 and Section 8, the consummation of the Merger (the "**Closing**") shall take place remotely, as promptly as practicable (but in no event later than the second Business Day following the satisfaction or waiver of the last to be satisfied or waived of the conditions set forth in Section 7, Section 8 and Section 9, other than those conditions that by their nature are to be satisfied at the Closing, but subject to the satisfaction or waiver of each of such conditions), or at such other time, date and place as Parent and the Company may mutually agree in writing. The date on

which the Closing actually takes place is referred to as the "**Closing Date**." At the Closing, the Parties shall cause the Merger to be consummated by executing and filing with the Secretary of State of the State of Delaware a certificate of merger with respect to the Merger, satisfying the applicable requirements of the DGCL and in form and substance as agreed to by the Parties (the "**Certificate of Merger**"). The Merger shall become effective at the time of the filing of such Certificate of Merger with the Secretary of State of the State of Delaware or at such later time as may be specified in such Certificate of Merger with the consent of Parent and the Company (the time as of which the Merger becomes effective being referred to as the "**Effective Time**").

2.4 Organizational Documents; Directors and Officers.

(a) the certificate of incorporation of the Surviving Corporation shall be amended and restated in the Merger to read as set forth on Exhibit A to the Certificate of Merger, until thereafter amended as provided by the DGCL and such certificate of incorporation;

(b) the certificate of incorporation of Parent shall be identical to the certificate of incorporation of Parent immediately prior to the Effective Time, until thereafter amended as provided by the DGCL and such certificate of incorporation; provided, however, that at the Effective Time, Parent shall file an amendment to its certificate of incorporation to (i) change the name of Parent to "Neurogene Inc.", (ii) effect the Nasdaq Reverse Split (to the extent applicable and necessary) and (iii) make such other changes as are mutually agreeable to Parent and the Company;

(c) the bylaws of the Surviving Corporation shall be identical to the bylaws of Merger Sub as in effect immediately prior to the Effective Time, until thereafter amended as provided by the DGCL and such bylaws;

(d) the directors and officers of Parent, each to hold office in accordance with the certificate of incorporation and bylaws of Parent, shall be as set forth in Section 6.13; and

(e) the directors and officers of Surviving Corporation, each to hold office in accordance with the certificate of incorporation and bylaws of Merger Sub, shall be as set forth in Section 6.13 after giving effect to the provisions of Section 6.13, or such other persons as shall be mutually agreed upon by Parent and the Company.

2.5 Conversion of Company Equity Securities.

(a) At the Effective Time, by virtue of the Merger and without any further action on the part of Parent, Merger Sub, the Company or any stockholder of the Company or Parent:

(i) any shares of Company Capital Stock held as treasury stock immediately prior to the Effective Time shall be canceled and retired and shall cease to exist, and no consideration shall be delivered in exchange therefor;

(ii) subject to Section 2.5(c), each share of Company Capital Stock (including any shares of Company Capital Stock issued pursuant to any Company Pre-Closing Financing) outstanding immediately prior to the Effective Time (excluding shares to be canceled pursuant to Section 2.5(a)(i) and excluding Dissenting Shares) shall be converted solely into the right to receive either, in accordance with the election of a stockholder in such stockholder's Letter of Transmittal (as defined below), (A) a number of shares of Parent Common Stock equal to the Exchange Ratio (the "**Merger Consideration**") or (B) a warrant entitling the holder thereof to purchase shares of Parent Common Stock (each, a "**Parent Pre-Funded Warrant**") and providing that such Parent Pre-Funded Warrant shall be exercisable for the Merger Consideration; provided, that (i) any stockholder will be automatically considered to have elected to receive Parent Pre-Funded Warrants to the extent necessary to prevent such stockholder from beneficially

owning more than 9.99% of the outstanding shares of Parent Common Stock following the consummation of the Merger and (ii) other than as provided in the foregoing clause (i), if any stockholder shall fail to make any such election, such stockholder shall be deemed to have so elected to receive shares of Parent Common Stock; and

(iii) each Company Pre-Funded Warrant issued and outstanding immediately prior to the Effective Time shall be converted into and become exchangeable for a Parent Pre-Funded Warrant that complies with and satisfies the applicable terms and conditions of the applicable warrant agreement between the Company and the holder of the Company Pre-Funded Warrant and providing that such Parent Pre-Funded Warrant shall be exercisable for a number of shares of Parent Common Stock equal to the product of (A) the number of shares of Company Common Stock that would have been issuable upon exercise of the Company Pre-Funded Warrant and (B) the Exchange Ratio, and such Parent Pre-Funded Warrant shall have an exercise price per share equal to: (x) the exercise price per share of Company Common Stock otherwise purchasable pursuant to such Company Pre-Funded Warrant, divided by (y) the Exchange Ratio.

(b) If any shares of Company Capital Stock outstanding immediately prior to the Effective Time are unvested or are subject to a repurchase option or a risk of forfeiture under any applicable restricted stock purchase agreement or other similar agreement with the Company, then the shares of Parent Common Stock issued in exchange for such shares of Company Capital Stock will to the same extent be unvested and subject to the same repurchase option or risk of forfeiture, and such shares of Parent Common Stock shall accordingly be marked with appropriate legends. The Company shall take all actions that may be necessary to ensure that, from and after the Effective Time, Parent is entitled to exercise any such repurchase option or other right set forth in any such restricted stock purchase agreement or other agreement.

(c) No fractional shares of Parent Common Stock shall be issued in connection with the Merger, and no certificates or scrip for any such fractional shares shall be issued. Any holder of Company Capital Stock who would otherwise be entitled to receive a fraction of a share of Parent Common Stock (after aggregating all fractional shares of Parent Common Stock issuable to such holder) shall receive from Parent, in lieu of such fractional share and upon surrender by such holder of such holder's Letter of Transmittal in accordance with Section 2.8 and any accompanying documents as required therein: (i) one share of Parent Common Stock if the aggregate amount of fractional shares of Parent Common Stock such holder of Company Capital Stock would otherwise be entitled to is equal to or exceeds 0.50; or (ii) no shares of Parent Common Stock if the aggregate amount of fractional shares of Parent Common Stock such holder of Company Capital Stock would otherwise be entitled to is less than 0.50, with no cash being paid for any fractional share eliminated by such rounding.

(d) All Company Options outstanding immediately prior to the Effective Time shall be treated in accordance with Section 6.5(a). All Company Restricted Stock Units outstanding immediately prior to the Effective Time shall be treated in accordance with Section 6.5(b).

(e) Each share of common stock, $0.0001 par value per share, of Merger Sub issued and outstanding immediately prior to the Effective Time shall be converted into and exchanged for one validly issued, fully paid and nonassessable share of common stock, $0.0001 par value per share, of the Surviving Corporation. Each book entry share of Merger Sub evidencing ownership of any such shares shall, as of the Effective Time, evidence ownership of such shares of common stock of the Surviving Corporation.

(f) If, between the date of this Agreement and the Effective Time, the outstanding Company Capital Stock or Parent Common Stock shall have been changed into, or exchanged for, a different number of shares or a different class, by reason of any stock dividend, subdivision, reclassification, recapitalization, split (including the Nasdaq Reverse Split to the extent such split has not previously been taken into account in calculating the Exchange Ratio), combination or exchange of shares or other like change, the Exchange Ratio shall, to the extent necessary, be equitably adjusted to reflect such change to the extent necessary to provide the

holders of Company Capital Stock, Company Options, Company Restricted Stock Units and Parent Common Stock with the same economic effect as contemplated by this Agreement prior to such stock dividend, subdivision, reclassification, recapitalization, split, combination or exchange of shares or other like change; provided, however, that nothing herein will be construed to permit the Company or Parent to take any action with respect to Company Capital Stock or Parent Common Stock, respectively, that is prohibited or not expressly permitted by the terms of this Agreement.

2.6 Contingent Value Right.

(a) Prior to the Effective Time, Parent shall declare a distribution (the "**Closing Distribution**") to holders of Parent Common Stock and the holders of certain warrants to acquire Parent Common Stock that are entitled to the Closing Distribution, in each case, of record as of immediately prior to the Effective Time (including, for the avoidance of doubt, those shares of Parent Common Stock issued upon settlement of Parent Restricted Stock Units pursuant to Section 6.7) of the right to receive one contingent value right (a "**CVR**") for each outstanding share of Parent Common Stock held by such stockholder as of such date (or, in the case of Parent Warrants that are entitled to the Closing Distribution, each share of Parent Common Stock for which such Parent Warrant is exercisable), each representing the right to receive contingent payments (less applicable withholding taxes) upon the occurrence of certain events set forth in, and subject to and in accordance with the terms and conditions of, the Contingent Value Rights Agreement in the form attached hereto as Exhibit D (the "**CVR Agreement**"). The record date for the Closing Distribution shall be the close of business on the Business Day on which the Effective Time occurs and the payment date for which shall be three (3) Business Days after the Effective Time; provided that the payment of such distribution may be conditioned upon the occurrence of the Effective Time.

(b) A Parent Option that remains outstanding as of the Closing shall, upon exercise thereof, be entitled to receive, in addition to the shares of Parent Common Stock issuable thereunder, one CVR for each outstanding share of Parent Common Stock issued upon exercise of such Parent Option (but not any CVR Payments (as defined in the CVR Agreement) that may have been distributed prior to such exercise). Notwithstanding the foregoing, there is no obligation for a holder of a Parent Option to exercise any portion of such Parent Option and there is no obligation for a Parent Option to remain outstanding beyond its contractual post-termination exercise period.

(c) Parent shall provide notice to Nasdaq of the Closing Distribution not later than the 10th day prior to the record date for such Closing Distribution.

(d) Parent and the Exchange Agent shall, at or prior to the Effective Time, duly authorize, execute and deliver the CVR Agreement, subject to any reasonable revisions to the CVR Agreement that are requested by such Exchange Agent and are reasonably acceptable to the Company and Parent.

(e) Parent shall pay all costs and fees of the Exchange Agent associated with any action taken prior to Closing contemplated by this Section 2.6 (the "**CVR Fees**").

2.7 Closing of the Company's Transfer Books. At the Effective Time: (a) all Company Capital Stock outstanding immediately prior to the Effective Time shall be treated in accordance with Section 2.5(a), and all holders of certificates representing Company Capital Stock that were outstanding immediately prior to the Effective Time shall cease to have any rights as stockholders of the Company and (b) the stock transfer books of the Company shall be closed with respect to all Company Capital Stock outstanding immediately prior to the Effective Time. No further transfer of any such Company Capital Stock shall be made on such stock transfer books after the Effective Time.

2.8 Surrender of Company Capital Stock.

(a) On or prior to the Closing Date, Parent and the Company shall jointly select a reputable bank, transfer agent or trust company to act as exchange agent in the Merger (the "**Exchange Agent**"). At the Effective Time, Parent shall deposit with the Exchange Agent evidence of book-entry shares representing the shares of Parent Common Stock issuable pursuant to Section 2.5(a) in exchange for Company Capital Stock.

(b) Promptly after the Effective Time, the Parties shall cause the Exchange Agent to mail to the Persons who were record holders of shares of Company Capital Stock that were converted into the right to receive the Merger Consideration or Parent Pre-Funded Warrants in lieu thereof: (i) a letter of transmittal in customary form and containing such provisions as Parent may reasonably specify (including a provision confirming that delivery of Company Stock Certificates shall be effected, and risk of loss and title to Company Stock Certificates shall pass, only upon delivery of such Company Stock Certificates to the Exchange Agent) (the "**Letter of Transmittal**") and (ii) instructions for effecting the surrender of Company Stock Certificates, or uncertificated shares of Company Capital Stock, in exchange for book-entry shares of Parent Common Stock or Parent Pre-Funded Warrants in lieu thereof. Upon surrender of a Company Stock Certificate or other reasonable evidence of the ownership of uncertificated Company Capital Stock to the Exchange Agent for exchange, together with such holder's duly executed Letter of Transmittal and such other documents as may be reasonably required by the Exchange Agent or Parent: (A) the holder of such Company Stock Certificate or uncertificated shares of Company Capital Stock shall be entitled to receive in exchange therefor book-entry shares representing the Merger Consideration (in a number of whole shares of Parent Common Stock) that such holder has the right to receive pursuant to the provisions of Section 2.5(a) or Parent Pre-Funded Warrants in lieu thereof and (B) the Company Stock Certificate or uncertificated shares of Company Capital Stock so surrendered shall be canceled. Until surrendered as contemplated by this Section 2.8(b), each Company Stock Certificate or uncertificated shares of Company Capital Stock shall be deemed, from and after the Effective Time, to represent only the right to receive book-entry shares of Parent Common Stock representing the Merger Consideration or Parent Pre-Funded Warrants in lieu thereof. If any Company Stock Certificate shall have been lost, stolen or destroyed, Parent may, in its discretion and as a condition precedent to the delivery of any shares of Parent Common Stock, require the owner of such lost, stolen or destroyed Company Stock Certificate to provide an applicable affidavit with respect to such Company Stock Certificate and post a bond indemnifying Parent against any claim suffered by Parent related to the lost, stolen or destroyed Company Stock Certificate or any Parent Common Stock issued in exchange therefor or Parent Pre-Funded Warrants in lieu thereof as Parent may reasonably request.

(c) No dividends or other distributions declared or made with respect to Parent Common Stock with a record date after the Effective Time shall be paid to the holder of any unsurrendered Company Stock Certificate with respect to the shares of Parent Common Stock or Parent Pre-Funded Warrants in lieu thereof that such holder has the right to receive in the Merger until such holder surrenders such Company Stock Certificate or uncertificated shares of Company Capital Stock or provides an affidavit of loss or destruction in lieu thereof in accordance with this Section 2.8 (at which time such holder shall be entitled, subject to the effect of applicable abandoned property, escheat or similar Laws, to receive all such dividends and distributions, without interest).

(d) Any shares of Parent Common Stock deposited with the Exchange Agent that remain undistributed to holders of Company Stock Certificates as of the date that is one hundred eighty (180) days after the Closing Date shall be delivered to Parent upon demand, and any holders of Company Stock Certificates who have not theretofore surrendered their Company Stock Certificates or uncertificated shares of Company Capital Stock in accordance with this Section 2.8 shall thereafter look only to Parent for satisfaction of their claims for Parent Common Stock and any dividends or distributions with respect to shares of Parent Common Stock.

(e) No Party shall be liable to any holder of any Company Stock Certificate or uncertificated shares of Company Capital Stock or to any other Person with respect to any shares of Parent Common Stock (or dividends or distributions with respect thereto) or for any cash amounts delivered to any public official pursuant to any applicable abandoned property Law, escheat Law or similar Law.

2.9 Calculation of Net Cash.

(a) No later than five (5) Business Days before the Anticipated Closing Date, Parent will deliver to the Company a schedule (the "**Parent Net Cash Schedule**") setting forth, in reasonable detail, Parent's good faith, estimated calculation of Parent Net Cash (the "**Parent Net Cash Calculation**") as of 11:59 p.m. on the last Business Day prior to the Anticipated Closing Date (the "**Cash Determination Time**") prepared and certified by Parent's chief financial officer (or if there is no chief financial officer at such time, the principal financial and accounting officer for Parent). Parent shall make available to the Company (electronically to the greatest extent possible), as reasonably requested by the Company, the work papers and back-up materials used or useful in preparing the Parent Net Cash Schedule and, if reasonably requested by the Company, Parent's accountants and counsel at reasonable times and upon reasonable notice. The Parent Net Cash Calculation shall include Parent's determination, as of the Cash Determination Time, of the defined terms in Section 1.1(a) necessary to calculate the Exchange Ratio.

(b) No later than three (3) Business Days after the Cash Determination Time (the last day of such period, the "**Response Date**"), the Company shall have the right to dispute any part of the Parent Net Cash Calculation by delivering a written notice to that effect to Parent (a "**Dispute Notice**"). Any Dispute Notice shall identify in reasonable detail and to the extent known the nature and amounts of any proposed revisions to the Parent Net Cash Calculation and will be accompanied by reasonably detailed materials supporting the basis for such revisions.

(c) If, on or prior to the Response Date, the Company notifies Parent in writing that it has no objections to the Parent Net Cash Calculation or, if on the Response Date, the Company fails to deliver a Dispute Notice as provided in Section 2.9(b), then the Parent Net Cash Calculation as set forth in the Parent Net Cash Schedule shall be deemed to have been finally determined for purposes of this Agreement and to represent the Parent Net Cash at the Cash Determination Time for purposes of this Agreement.

(d) If the Company delivers a Dispute Notice on or prior to the Response Date, then Representatives of Parent and the Company shall promptly meet and attempt in good faith to resolve the disputed item(s) and negotiate an agreed-upon determination of Parent Net Cash, which agreed upon Parent Net Cash amount shall be deemed to have been finally determined for purposes of this Agreement and to represent the Parent Net Cash at the Cash Determination Time for purposes of this Agreement.

(e) If Representatives of Parent and the Company are unable to negotiate an agreed-upon determination of Parent Net Cash as of the Cash Determination Time pursuant to Section 2.9(d) within three (3) days after delivery of the Dispute Notice (or such other period as Parent and the Company may mutually agree upon), then any remaining disagreements as to the calculation of Parent Net Cash shall be referred to an independent auditor of recognized national standing jointly selected by Parent and the Company. If the Parties are unable to select an independent auditor within five (5) days, then either Parent or the Company may thereafter request that the Seattle, Washington Office of the American Arbitration Association ("**AAA**") make such selection (either the independent auditor jointly selected by both Parties or such independent auditor selected by the AAA, the "**Accounting Firm**"). Parent and the Company shall promptly deliver to the Accounting Firm the work papers and back-up materials used in preparing the Parent Net Cash Schedule and the Dispute Notice, and Parent and the Company shall use commercially reasonable efforts to cause the Accounting Firm to make its determination within five (5) Business Days of accepting its selection. Parent and the Company shall be afforded the opportunity to present to the Accounting Firm any material related to the unresolved disputes and to discuss the issues with the Accounting Firm; provided, however, that no such presentation or discussion shall occur without the presence of a Representative of each of Parent and the Company. The determination of the Accounting Firm shall be limited to the disagreements submitted to the Accounting Firm. The determination of the amount of Parent Net Cash made by the Accounting Firm shall be made in writing, shall be delivered to each of Parent and the Company, shall be final and binding on Parent and the Company and shall (absent manifest error) be deemed to have been finally determined for purposes of this Agreement and to represent the Parent Net Cash at the Cash Determination Time for purposes of this Agreement. The Parties shall

delay the Closing until the resolution of the matters described in this Section 2.9(e). The fees and expenses of the Accounting Firm shall be allocated between Parent and the Company in the same proportion that the disputed amount of the Parent Net Cash that was unsuccessfully disputed by such Party (as finally determined by the Accounting Firm) bears to the total disputed amount of the Parent Net Cash amount. If this Section 2.9(e) applies as to the determination of the Parent Net Cash at the Cash Determination Time upon resolution of the matter in accordance with this Section 2.9(e), the Parties shall not be required to determine Parent Net Cash again, even though the Closing may occur later than the Anticipated Closing Date, except that either Parent and the Company may request a redetermination of Parent Net Cash if the Closing Date is more than thirty (30) days after the Anticipated Closing Date.

2.10 Further Action. If, at any time after the Effective Time, any further action is determined by the Surviving Corporation to be necessary or desirable to carry out the purposes of this Agreement or to vest the Surviving Corporation with full right, title and possession of and to all rights and property of the Company, then the officers and directors of the Surviving Corporation shall be fully authorized, and shall use their and its commercially reasonable efforts (in the name of the Company, in the name of Merger Sub, in the name of the Surviving Corporation and otherwise) to take such action.

2.11 Intended Tax Treatment. The Parties acknowledge and agree that, for U.S. federal (and applicable state and local) income Tax purposes, the Merger is intended to qualify as a "reorganization" within the meaning of Section 368(a) of the Code (the "**Intended Tax Treatment**"). The Parties adopt this Agreement as a "plan of reorganization" within the meaning of Treasury Regulations Sections 1.368-2(g) and 1.368-3.

2.12 Withholding. Each of the Exchange Agent, Parent and the Surviving Corporation shall be entitled to deduct and withhold from any consideration deliverable pursuant to this Agreement (including the Closing Distribution) to any Person such amounts as are required to be deducted or withheld from such consideration under applicable Law; provided, that the Exchange Agent, Parent and the Surviving Corporation shall use commercially reasonable efforts to promptly notify such Persons of any intention to withhold any portion of such consideration and cooperate with such Persons to reduce or eliminate any such withholding to the extent permitted by applicable Law. To the extent such amounts are so deducted or withheld and remitted to the appropriate Governmental Authority, such amounts shall be treated for all purposes under this Agreement as having been paid to the Person to whom such amounts would otherwise have been paid. All payments made under this agreement that constitute compensation to employees for services for Tax purposes shall be made through the payroll of the Surviving Corporation or Parent, as applicable.

2.13 Appraisal Rights.

(a) Notwithstanding any provision of this Agreement to the contrary, shares of Company Capital Stock that are outstanding immediately prior to the Effective Time and which are held by stockholders who have exercised and perfected appraisal rights for such shares of Company Capital Stock in accordance with the DGCL (collectively, the "**Dissenting Shares**") shall not be converted into or represent the right to receive the Merger Consideration described in Section 2.5 attributable to such Dissenting Shares. Such stockholders shall be entitled to receive payment of the appraised value of such shares of Company Capital Stock held by them in accordance with the DGCL, unless and until such stockholders fail to perfect or effectively withdraw or otherwise lose their appraisal rights under the DGCL. All Dissenting Shares held by stockholders who shall have failed to perfect or shall have effectively withdrawn or lost their right to appraisal of such shares of Company Capital Stock under the DGCL (whether occurring before, at or after the Effective Time) shall thereupon be deemed to be converted into and to have become exchangeable for, as of the Effective Time, the right to receive the Merger Consideration, without interest, attributable to such Dissenting Shares upon their surrender in the manner provided in Sections 2.5 and 2.8.

(b) The Company shall give Parent prompt written notice of any demands by dissenting stockholders received by the Company, withdrawals of such demands and any other instruments served on the Company and any material correspondence received by the Company in connection with such demands, and

Parent shall have the right to participate in all negotiations and proceedings with respect to such demands. The Company shall not, except with Parent's prior written consent, not to be unreasonably withheld, delayed or conditioned, make any payment with respect to, or settle or offer to settle, any such demands, or approve any withdrawal of any such demands or agree to do any of the foregoing.

Section 3. Representations and Warranties of the Company.

Subject to this Section 3, except as set forth in the written disclosure schedule delivered by the Company to Parent (the "**Company Disclosure Schedule**"), the Company represents and warrants to Parent and Merger Sub as follows:

3.1 Due Organization; No Subsidiaries.

(a) The Company is a corporation duly incorporated, validly existing and in good standing under the Laws of Delaware and has all necessary corporate power and authority: (i) to conduct its business in the manner in which its business is currently being conducted, (ii) to own or lease and use its property and assets in the manner in which its property and assets are currently owned or leased and used and (iii) to perform its obligations under all Contracts by which it is bound.

(b) The Company is duly licensed and qualified to do business, and is in good standing (to the extent applicable in such jurisdiction), under the Laws of all jurisdictions where the nature of its business in the manner in which its business is currently being conducted requires such licensing or qualification other than in jurisdictions where the failure to be so qualified individually or in the aggregate would not be reasonably expected to have a Company Material Adverse Effect.

(c) The Company has no Subsidiaries and the Company does not own any capital stock or membership interests of, or any equity, ownership or profit sharing interest of any nature in, or controls directly or indirectly, any other Entity. The Company is not and has not otherwise been, directly or indirectly, a party to, member of or participant in any partnership, joint venture or similar business Entity. The Company has not agreed and is not obligated to make, nor is bound by any Contract under which it may become obligated to make, any future investment in or capital contribution to any other Entity. The Company has not, at any time, been a general partner of, and has not otherwise been liable for any of the debts or other obligations of, any general partnership, limited partnership or other Entity.

3.2 Organizational Documents. The Company has delivered to Parent accurate and complete copies of the Organizational Documents of the Company, and in each case such Organizational Document as so delivered is in full force and effect. The Company is not in material breach or violation of its Organizational Documents in any material respect.

3.3 Authority; Binding Nature of Agreement. The Company has all necessary corporate power and authority to enter into and to perform its obligations under this Agreement and to consummate the Contemplated Transactions. The Company Board has (a) determined that the Contemplated Transactions are fair to, advisable and in the best interests of the Company and its stockholders, (b) approved and declared advisable this Agreement and the Contemplated Transactions and (c) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholders of the Company vote to adopt this Agreement and thereby approve the Contemplated Transactions. This Agreement has been duly executed and delivered by the Company and assuming the due authorization, execution and delivery by Parent and Merger Sub, constitutes the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, subject to the Enforceability Exceptions.

3.4 Vote Required. The affirmative vote (or written consent) of (a) the holders of a majority of the shares of Company Capital Stock outstanding on the record date and entitled to vote thereon, voting as a single

class on an as-converted basis and (b) the holders of 62% of the shares of outstanding Company Preferred Stock then held by Qualified Holders (as defined in that certain Second Amended and Restated Investors' Rights Agreement, by and between the parties thereto and the Company, dated March 4, 2022) on the record date and entitled to vote thereon, voting together as a single class on an as-converted basis (collectively, the "**Required Company Stockholder Vote**").

3.5 Non-Contravention; Consents.

(a) Subject to obtaining the Required Company Stockholder Vote and the filing of the Certificate of Merger required by the DGCL, neither (x) the execution, delivery or performance of this Agreement by the Company, nor (y) the consummation of the Contemplated Transactions, will directly or indirectly (with or without notice or lapse of time):

(i) contravene, conflict with or result in a violation of any of the provisions of the Organizational Documents of the Company;

(ii) contravene, conflict with or result in a material violation of, or give any Governmental Authority or other Person the right to challenge the Contemplated Transactions or to exercise any remedy or obtain any relief under, any Law or any Order to which the Company, or any of the assets owned or used by the Company, is subject, except as would not reasonably be expected to be material to the Company;

(iii) contravene, conflict with or result in a material violation of any of the terms or requirements of, or give any Governmental Authority the right to revoke, withdraw, suspend, cancel, terminate or modify, any Governmental Authorization that is held by the Company or that otherwise relates to the business of the Company, or any of the assets owned, leased or used by the Company, except as would not reasonably be expected to be material to the Company;

(iv) contravene, conflict with or result in a violation or breach of, or result in a default under, any provision of any Company Material Contract, or give any Person the right to: (A) declare a default or exercise any remedy under any Company Material Contract, (B) any material payment, rebate, chargeback, penalty or change in delivery schedule under such Company Material Contract, (C) accelerate the maturity or performance of any Company Material Contract or (D) cancel, terminate or modify any term of any Company Material Contract, except in the case of any nonmaterial breach, default, penalty or modification; or

(v) result in the imposition or creation of any Encumbrance upon or with respect to any asset owned or used by the Company (except for Permitted Encumbrances).

(b) Except for (i) any Consent set forth on Section 3.5 of the Company Disclosure Schedule under any Company Contract, (ii) the Required Company Stockholder Vote, (iii) the filing of the Certificate of Merger with the Secretary of State of the State of Delaware pursuant to the DGCL, and (iv) such consents, waivers, approvals, orders, authorizations, registrations, declarations and filings as may be required under applicable federal and state securities Laws, the Company was not, is not, nor will be required to make any filing with or give any notice to, or to obtain any Consent from, any Person in connection with (x) the execution, delivery or performance of this Agreement or (y) the consummation of the Contemplated Transactions, which if individually or in the aggregate were not given or obtained, would reasonably be expected to prevent or materially delay the ability of the Company to consummate the Contemplated Transactions or be material to the Company.

(c) The Company Board has taken and will take all actions necessary to ensure that the restrictions applicable to business combinations contained in Section 203 of the DGCL, to the extent applicable to the Company, are, and will be, inapplicable to the execution, delivery and performance of this Agreement and the Company Stockholder Support Agreements and to the consummation of the Contemplated Transactions. No other state takeover statute or similar Law applies or purports to apply to the Merger, this Agreement, the Company Stockholder Support Agreements or any of the other Contemplated Transactions.

3.6 Capitalization.

(a) Section 3.6(a) of the Company Disclosure Schedule sets forth an accurate and complete capitalization table of the Company as of the date of this Agreement.

(b) All of the outstanding Company Capital Stock as set out in Section 3.6(a) of the Company Disclosure Schedule have been duly authorized and validly issued, and are fully paid and nonassessable and are free of any Encumbrances other than Encumbrances set forth in the Organizational Documents or under applicable securities Laws. None of the outstanding Company Capital Stock is entitled or subject to any preemptive right, right of participation, right of maintenance or any similar right and none of the outstanding Company Capital Stock is subject to any right of first refusal in favor of the Company. Except as contemplated herein, there is no Company Contract relating to the voting or registration of, or restricting any Person from purchasing, selling, pledging or otherwise disposing of (or granting any option or similar right with respect to), any Company Capital Stock. The Company is not under any obligation, nor is the Company bound by any Contract pursuant to which it may become obligated, to repurchase, redeem or otherwise acquire any outstanding Company Capital Stock or other securities. Section 3.6(b) of the Company Disclosure Schedule accurately and completely lists all repurchase rights held by the Company with respect to Company Capital Stock (including shares issued pursuant to the exercise of stock options) and specifies which of those repurchase rights are currently exercisable.

(c) Except as set forth on Section 3.6(c) of the Company Disclosure Schedule, the Company does not have any option plan or any other plan, program, agreement or arrangement providing for any equity-based compensation for any Person.

(d) Except as set forth on Section 3.6(d) of the Company Disclosure Schedule, there is no: (i) outstanding subscription, option, call, warrant or right (whether or not currently exercisable) to acquire any Company Capital Stock or other securities of the Company, (ii) outstanding security, instrument or obligation that is or may become convertible into or exchangeable for any shares of the capital stock or other securities of the Company, (iii) stockholder rights plan (or similar plan commonly referred to as a "poison pill") or Contract under which the Company is or may become obligated to sell or otherwise issue any Company Capital Stock or any other securities or (iv) condition or circumstance that could be reasonably likely to give rise to or provide a basis for the assertion of a claim by any Person to the effect that such Person is entitled to acquire or receive any shares of capital stock or other securities of the Company. There are no outstanding or authorized stock appreciation, phantom stock, profit participation or other similar rights with respect to the Company.

(e) All outstanding Company Capital Stock and other securities of the Company have been issued and granted in material compliance with (i) all applicable securities Laws and other applicable Law and (ii) all requirements set forth in applicable Contracts.

(f) The Company Capital Stock are uncertificated.

3.7 Financial Statements.

(a) Section 3.7(a) of the Company Disclosure Schedule includes true and complete copies of the Company's audited balance sheets at December 31, 2022 (the "**Company Balance Sheet**"), together with related audited statements of operations, changes in stockholders' equity and cash flows, and notes thereto, of the Company for the fiscal years then ended (collectively, the "**Company Financial Statements**") and the unaudited balance sheet of the Company at March 31, 2023, and the related unaudited statements of operations, changes in stockholders' equity and cash flows, and notes thereto (collectively referred to as the "**Company Interim Financials**" and together with Company Financial Statements, the "**Company Financials**"). The Company Financials (A) were prepared in accordance with United States generally accepted accounting principles ("**GAAP**") and were audited in accordance with the standards of the PCAOB (except that the Company

Financials may not have notes thereto and other presentation items that may be required by GAAP and are subject to normal and recurring year-end adjustments that are not reasonably expected to be material in amount) applied on a consistent basis unless otherwise noted therein throughout the periods indicated and (B) fairly present, in all material respects, the financial position and operating results of the Company as of the dates and for the periods indicated therein.

(b) The Company maintains a system of internal accounting controls designed to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of the financial statements of the Company in conformity with GAAP and to maintain accountability of the Company's assets, (iii) access to the Company's assets is permitted only in accordance with management's general or specific authorization and (iv) the recorded accountability for the Company's assets is compared with the existing assets at regular intervals and appropriate action is taken with respect to any differences. The Company maintains internal controls consistent with the practices of similarly situated private companies over financial reporting that provides reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes.

(c) Section 3.7(c) of the Company Disclosure Schedule lists, and the Company has delivered to Parent accurate and complete copies of the documentation creating or governing, all securitization transactions and "off-balance sheet arrangements" (as defined in Item 303(c) of Regulation S-K under the Exchange Act) effected by the Company.

(d) There have been no formal internal investigations regarding financial reporting or accounting policies and practices discussed with, reviewed by or initiated at the direction of the chief executive officer, chief financial officer or general counsel of the Company, the Company Board or any committee thereof. Neither the Company nor its independent auditors have identified (i) any significant deficiency or material weakness in the design or operation of the system of internal accounting controls utilized by the Company, (ii) any fraud, whether or not material, that involves the Company, the Company's management or other employees who have a role in the preparation of financial statements or the internal accounting controls utilized by the Company or (iii) any claim or allegation regarding any of the foregoing.

3.8 Absence of Changes. Except as set forth on Section 3.8 of the Company Disclosure Schedule, between March 31, 2023 and the date of this Agreement, the Company has conducted its business only in the Ordinary Course of Business (except for the execution and performance of this Agreement and the discussions, negotiations and transactions related thereto) and there has not been any (a) Company Material Adverse Effect or (b) action, event or occurrence that would have required consent of Parent pursuant to Section 5.2(b) of this Agreement had such action, event or occurrence taken place after the execution and delivery of this Agreement.

3.9 Absence of Undisclosed Liabilities. Since March 31, 2023, the Company does not have any liability, indebtedness, obligation, expense, claim, deficiency, guaranty or endorsement of any kind, whether accrued, absolute, contingent, matured, unmatured or otherwise (each a "**Liability**"), in each case, of a type required to be reflected or reserved for on a balance sheet prepared in accordance with GAAP, except for: (a) Liabilities disclosed, reflected or reserved against in the Company Balance Sheet, (b) normal and recurring current Liabilities that have been incurred by the Company since the date of the Company Balance Sheet in the Ordinary Course of Business (none of which relates to any breach of contract, breach of warranty, tort, infringement or violation of Law), (c) Liabilities for performance of obligations of the Company under Company Contracts, (d) Liabilities incurred in connection with the Contemplated Transactions and the Subscription Agreement and (e) Liabilities listed in Section 3.9 of the Company Disclosure Schedule.

3.10 Title to Assets. The Company has good and valid title to, or, in the case of leased properties and assets, valid leasehold interests in, all tangible properties or tangible assets and equipment used or held for use in its business or operations or purported to be owned by it, including: (a) all tangible assets reflected on the

Company Balance Sheet and (b) all other tangible assets reflected in the books and records of the Company as being owned by the Company. All of such assets are owned or, in the case of leased assets, leased by the Company free and clear of any Encumbrances, other than Permitted Encumbrances.

3.11 Real Property; Leasehold. The Company does not own and has never owned any real property. The Company has made available to Parent (a) an accurate and complete list of all real properties with respect to which the Company directly or indirectly holds a valid leasehold interest as well as any other real estate that is in the possession of or leased by the Company and (b) copies of all leases under which any such real property is possessed (the "**Company Real Estate Leases**"), each of which is in full force and effect, with no existing material default thereunder. The Company's use and operation of each such leased property conforms to all applicable Laws in all material respects, and the Company has exclusive possession of each such leased property and has not granted any occupancy rights to tenants or licensees with respect to such leased property. In addition, each such leased property is free and clear of all Encumbrances other than Permitted Encumbrances.

3.12 Intellectual Property.

(a) Section 3.12(a) of the Company Disclosure Schedule is an accurate, true and complete listing of all Company Registered IP.

(b) Section 3.12(b) of the Company Disclosure Schedule accurately identifies (i) all Company Contracts pursuant to which any Company IP Rights are licensed to the Company (other than (A) any non-customized software that (1) is so licensed solely in executable or object code form pursuant to a nonexclusive, internal use software license and other Intellectual Property associated with such software and (2) is not incorporated into, or material to the development, manufacturing or distribution of, any of the Company's products or services, (B) any Intellectual Property licensed on a nonexclusive basis ancillary to the purchase or use of equipment, reagents or other materials, (C) any confidential information provided under confidentiality agreements and (D) agreements between Company and its employees in Company's standard form thereof), and (ii) whether the license or licenses granted to the Company are exclusive or nonexclusive.

(c) Section 3.12(c) of the Company Disclosure Schedule accurately identifies each Company Contract pursuant to which any Person has been granted any license or covenant not to sue under, or otherwise has received or acquired any right (whether or not currently exercisable) or interest in, any Company IP Rights (other than (i) any confidential information provided under confidentiality agreements and (ii) any Company IP Rights nonexclusively licensed to academic collaborators, suppliers or service providers for the sole purpose of enabling such academic collaborator, supplier or service providers to provide services for the Company's benefit).

(d) The Company is not bound by, and no Company IP Rights are subject to, any Contract containing any covenant or other provision that in any way limits or restricts the ability of the Company to use, exploit, assert or enforce any Company IP Rights anywhere in the world.

(e) The Company exclusively owns all right, title and interest to and in Company IP Rights (other than (x) Company IP Rights licensed to the Company, or co-owned rights each as identified in Section 3.12(e) of the Company Disclosure Schedule, (y) any non-customized software that (A) is licensed to the Company solely in executable or object code form pursuant to a nonexclusive, internal use software license and other Intellectual Property associated with such software and (B) is not incorporated into, or material to the development, manufacturing or distribution of, any of the Company's products or services and (z) any Intellectual Property licensed on a nonexclusive basis ancillary to the purchase or use of equipment, reagents or other materials), in each case, free and clear of any Encumbrances (other than Permitted Encumbrances). Without limiting the generality of the foregoing:

(i) All documents and instruments necessary to register or apply for or renew registration of Company Registered IP have been validly executed, delivered and filed in a timely manner with the appropriate Governmental Authority.

(ii) Each Person who is or was an employee or contractor of the Company and who is or was involved in the creation or development of any Intellectual Property for the Company has signed a valid, enforceable agreement containing a present assignment of such Intellectual Property to the Company and confidentiality provisions protecting trade secrets and confidential information of the Company.

(iii) To the Knowledge of the Company, no current or former stockholder, officer, director or employee of the Company has any claim, right (whether or not currently exercisable) or interest to or in any Company IP Rights purported to be owned by the Company. To the Knowledge of the Company, no employee of the Company is (A) bound by or otherwise subject to any Contract restricting him or her from performing his or her duties for the Company or (B) in breach of any Contract with any former employer or other Person concerning Company IP Rights purported to be owned by the Company or confidentiality provisions protecting trade secrets and confidential information comprising Company IP Rights purported to be owned by the Company.

(iv) No funding, facilities or personnel of any Governmental Authority were used, directly or indirectly, to develop or create, in whole or in part, any Company IP Rights in which the Company has an ownership interest.

(v) The Company has taken reasonable steps to maintain the confidentiality of and otherwise protect and enforce its rights in all proprietary information that the Company holds, or purports to hold, as confidential or a trade secret.

(vi) The Company has not assigned or otherwise transferred ownership of, or agreed to assign or otherwise transfer ownership of, any Company IP Rights to any other Person.

(f) The Company has delivered or made available to Parent, a complete and accurate copy of all material Company IP Rights Agreements. With respect to each of the Company IP Rights Agreements: (i) each such agreement is valid and binding on the Company and in full force and effect, (ii) the Company has not received any written notice of termination or cancellation under such agreement, nor any written notice of breach or default under such agreement, which breach has not been cured or waived and (iii) neither the Company nor, to the Knowledge of the Company, any other party to any such agreement, is in breach or default thereof in any material respect.

(g) Since January 1, 2020, to the Knowledge of the Company, the manufacture, marketing, sale, offering for sale, importation, use or intended use or other disposal of any product as currently sold or under development by the Company does not violate any license or agreement between the Company and any third party in any material respect, and, to the Knowledge of the Company, does not infringe or misappropriate any valid and issued Patent right or other Intellectual Property of any other Person, which infringement or misappropriation would reasonably be expected to have a Company Material Adverse Effect. To the Knowledge of the Company, no third party is infringing upon any Patents owned by the Company within the Company IP Rights, or otherwise violating any Company IP Rights Agreement.

(h) As of the date of this Agreement, the Company is not a party to any Legal Proceeding (including, but not limited to, opposition, interference or other proceeding in any patent or other government office) contesting the validity, enforceability, claim construction, ownership or right to use, sell, offer for sale, license or dispose of any Company IP Rights. The Company has not received any written notice asserting that any Company IP Rights or the proposed use, sale, offer for sale, license or disposition of products, methods or processes claimed or covered thereunder infringes or misappropriates or violates the rights of any other Person or that the Company has otherwise infringed, misappropriated or otherwise violated any Intellectual Property of any Person. None of the Company IP Rights is subject to any outstanding order of, judgment of, decree of or agreement with any Governmental Authority that limits the ability of the Company to exploit any Company IP Rights.

(i) Each item of Company Registered IP is and at all times has been filed and maintained in compliance in all material respects with all applicable Laws and all filings, payments and other actions required to be made or taken to maintain such item of Company Registered IP in full force and effect have been made by the applicable deadline. To the Knowledge of the Company, all Company Registered IP that is issued or granted is valid and enforceable.

(j) To the Knowledge of the Company, no trademark (whether registered or unregistered) or trade name owned, used or applied for by the Company conflicts or interferes with any trademark (whether registered or unregistered) or trade name owned, used or applied for by any other Person except as would not have a Company Material Adverse Effect. None of the goodwill associated with or inherent in any trademark (whether registered or unregistered) in which the Company has or purports to have an ownership interest has been impaired as determined by the Company in accordance with GAAP.

(k) Except as set forth in Sections 3.12(b) or 3.12(c) of the Company Disclosure Schedule or as contained in license, distribution or service agreements entered into in the Ordinary Course of Business by the Company (i) the Company is not bound by any Contract to indemnify, defend, hold harmless or reimburse any other Person with respect to any Intellectual Property infringement, misappropriation, or similar claim which is material to the Company, taken as a whole and (ii) the Company has never assumed, or agreed to discharge or otherwise take responsibility for, any existing or potential liability of another Person for infringement, misappropriation, or violation of any Intellectual Property right, which assumption, agreement or responsibility remains in force as of the date of this Agreement.

(l) The Company is not party to any Contract that, as a result of such execution, delivery and performance of this Agreement, will cause the grant of any license or other right to any Company IP Rights, result in breach of, default under or termination of such Contract with respect to any Company IP Rights, or impair the right of the Company or the Surviving Corporation and its Subsidiaries to use, sell or license or enforce any Company IP Rights or portion thereof, except for the occurrence of any such grant or impairment that would not individually or in the aggregate, reasonably be expected to result in a Company Material Adverse Effect.

3.13 Agreements, Contracts and Commitments.

(a) Section 3.13(a) of the Company Disclosure Schedule lists the following Company Contracts in effect as of the date of this Agreement other than the Subscription Agreement (each, a "**Company Material Contract**" and collectively, the "**Company Material Contracts**"):

(i) each Company Contract requiring payments by Company after the date of this Agreement in excess of $500,000 pursuant to its express terms relating to the employment of, or the performance of employment-related, consulting or independent contractor services by, or the engagement as a non-employee director of, any Person, including any employee, consultant, non-employee director or independent contractor, or Entity providing employment related, consulting or independent contractor services, not terminable by Company on thirty (30) calendar days' or less notice without liability, except to the extent general principles of wrongful termination Law may limit Company's, or such successor's ability to terminate employees at will;

(ii) each Company Contract relating to any agreement or plan, including any option plan, stock appreciation right plan, stock purchase plan or other equity or equity-based award plan any of the benefits of which will be increased or the vesting of benefits of which will be accelerated, by the occurrence of any of the Contemplated Transactions (either alone or in conjunction with any other event, such as termination of employment), or the value of any of the benefits of which will be calculated on the basis of any of the Contemplated Transactions;

(iii) each Company Contract relating to any agreement of indemnification or guaranty not entered into in the Ordinary Course of Business;

(iv) each Company Contract containing (A) any covenant limiting the freedom of the Company or the Surviving Corporation to engage in any line of business or compete with any Person, or limiting the development, manufacture or distribution of the Company's products or services, (B) any most-favored nation pricing arrangement, (C) any exclusivity provision, (D) any agreement to purchase minimum quantity of goods or services or (E) granting to any Person a right of first refusal, a right of first negotiation or a right of first offer, in each case, to purchase, acquire, sell, exclusively license or dispose of any material assets or properties of the Company or granting to any Person an option to purchase, acquire, sell, exclusively license or dispose of any assets or properties that are material to the Company;

(v) each Company Contract (A) pursuant to which any Person granted the Company an exclusive license under any Intellectual Property, or (B) pursuant to which the Company granted any Person an exclusive license under any Company IP Rights;

(vi) each Company Contract relating to capital expenditures and requiring payments after the date of this Agreement in excess of $100,000 pursuant to its express terms and not cancelable without penalty;

(vii) each Company Contract relating to the disposition or acquisition of material assets or any ownership interest in any Entity, in each case, involving payments in excess of $250,000 after the date of this Agreement;

(viii) each Company Contract relating to any mortgages, indentures, loans, notes or credit agreements, security agreements or other agreements or instruments relating to the borrowing of money or extension of credit in excess of $250,000 or creating any material Encumbrances with respect to any assets of the Company or any loans or debt obligations with officers or directors of the Company;

(ix) each Company Contract requiring payment by or to the Company after the date of this Agreement in excess of $1,000,000 in the aggregate pursuant to its express terms relating to: (A) any distribution agreement (identifying any that contain exclusivity provisions), (B) any agreement involving provision of services or products with respect to any pre-clinical or clinical development activities of the Company, (C) any dealer, distributor, joint marketing, alliance, joint venture, cooperation, development or other agreement currently in force under which the Company has continuing obligations to develop or market any product, technology or service, or any agreement pursuant to which the Company has continuing obligations to develop any Intellectual Property that will not be owned, in whole or in part, by the Company or (D) any Contract to license any Patent, trademark registration, service mark registration, trade name or copyright registration to or from any third party to manufacture or produce any product, service or technology of the Company or any Contract to sell, distribute or commercialize any products or service of the Company;

(x) each Company Contract with any Person, including any financial advisor, broker, finder, investment banker or other Person, providing advisory services to the Company in connection with the Contemplated Transactions and requiring payments by the Company after the date in this Agreement in excess of $500,000 in the aggregate pursuant to its express terms;

(xi) each Company Contract to which the Company is a party or by which any of its assets and properties is currently bound, which involves annual obligations of payment by, or annual payments to, the Company in excess of $500,000;

(xii) each Company Real Estate Lease;

(xiii) each Contract with any academic institution or Governmental Authority;

(xiv) a Contract disclosed in or required to be disclosed in Section 3.12(b) or Section 3.12(c) of the Company Disclosure Schedule;

(xv) each Contract containing any royalty, "earn-out", dividend or similar contingent payment arrangement, including (A) milestone or similar payments, including upon the achievement of regulatory or commercial milestones or (B) payment of royalties or other amounts calculated based on the revenues, income or profits of the Company;

(xvi) each material Contract between the Company and a contract research organization (other than, for the avoidance of doubt, any individual clinical trial site) providing for services to the Company involving management of clinical trials of the Company's products;

(xvii) any Contract requiring that the Company use any level of efforts to develop any Intellectual Property or products or Company Product Candidates;

(xviii) any Contract relating to the election of directors or appointment of officers of the Company;

(xix) a Contract disclosed in or required to be disclosed in Section 3.21(a) or Section 3.21(b) of the Company Disclosure Schedule; or

(xx) any other Company Contract that is not terminable at will (with no penalty or payment) by the Company, and (A) which involves payment or receipt by the Company after the date of this Agreement under any such agreement, contract or commitment of more than $100,000 in the aggregate, or obligations after the date of this Agreement in excess of $100,000 in the aggregate or (B) that is material to the business or operations of the Company taken as a whole.

(b) The Company has delivered or made available to Parent accurate and complete copies of all Company Material Contracts, including all amendments thereto. There are no Company Material Contracts that are not in written form. The Company has not, nor, to the Company's Knowledge, as of the date of this Agreement has any other party to a Company Material Contract, breached, violated, threatened to terminate or defaulted under, or received notice that it breached, violated, threatened to terminate or defaulted under, any of the terms or conditions of any Company Material Contract in such manner as would permit any other party to cancel or terminate any such Company Material Contract, or would permit any other party to seek damages which would reasonably be expected to have a Company Material Adverse Effect. As to the Company, as of the date of this Agreement, each Company Material Contract is valid, binding, enforceable and in full force and effect, subject to the Enforceability Exceptions. No Person is renegotiating, or has a right pursuant to the terms of any Company Material Contract to change, any material amount paid or payable to the Company under any Company Material Contract or any other material term or provision of any Company Material Contract.

3.14 Compliance; Permits; Restrictions.

(a) The Company is, and since January 1, 2020, has been in material compliance with all applicable Laws. No investigation, claim, suit, proceeding, audit, Order or other Legal Proceeding or action by any Governmental Authority is pending or, to the Knowledge of the Company, threatened against the Company. There is no agreement or Order binding upon the Company which (i) has or would reasonably be expected to have the effect of prohibiting or materially impairing any business practice of the Company, any acquisition of material property by the Company or the conduct of business by the Company as currently conducted, (ii) is reasonably likely to have an adverse effect on the Company's ability to comply with or perform any covenant or obligation under this Agreement or (iii) is reasonably likely to have the effect of preventing, delaying, making illegal or otherwise interfering with the Contemplated Transactions.

(b) Except for matters regarding the U.S. Food and Drug Administration (or any successor agency thereto) ("**FDA**") or other comparable Governmental Authority responsible for regulation of the development, testing, manufacturing, processing, storage, labeling, sale, marketing, advertising, distribution and importation or exportation of drug or medical device products ("**Drug/Device Regulatory Agency**"), the Company holds all required Governmental Authorizations that are material to the operation of the business of the Company as

currently conducted (the "**Company Permits**"). Section 3.14(b) of the Company Disclosure Schedule identifies each Company Permit. The Company is in material compliance with the terms of the Company Permits. No Legal Proceeding is pending or, to the Knowledge of the Company, threatened, which seeks to revoke, substantially limit, suspend or materially modify any Company Permit. The rights and benefits of each Company Permit, if any, will be available to the Surviving Corporation or its Subsidiaries, as applicable, immediately after the Effective Time on terms substantially identical to those enjoyed by the Company as of the date of this Agreement and immediately prior to the Effective Time.

(c) There are no Legal Proceedings pending or, to the Knowledge of the Company, threatened with respect to an alleged violation by the Company of the Federal Food, Drug, and Cosmetic Act ("**FDCA**"), the Public Health Service Act ("**PHSA**"), FDA regulations adopted thereunder, the Controlled Substances Act or any other similar Law promulgated by a Drug/Device Regulatory Agency.

(d) The Company holds all required Governmental Authorizations issuable by any Drug/Device Regulatory Agency necessary for the conduct of the business of the Company as currently conducted, and the development, testing, manufacturing, processing, storage, labeling, sale, marketing, advertising, distribution and importation or exportation, as currently conducted, of any of its products or product candidates (the "**Company Product Candidates**") (collectively, the "**Company Regulatory Permits**") and no such Company Regulatory Permit has been (i) revoked, withdrawn, suspended, cancelled or terminated or (ii) modified in any adverse manner, other than immaterial adverse modifications. Section 3.14(d) of the Company Disclosure Schedule identifies and lists each (A) Company Regulatory Permit and (B) Company Product Candidate. The Company has timely maintained and is in compliance in all material respects with the Company Regulatory Permits and has not, since January 1, 2020, received any written notice or correspondence or, to the Knowledge of the Company, other communication from any Drug/Device Regulatory Agency regarding (w) any material violation of or failure to comply materially with any term or requirement of any Company Regulatory Permit or (x) any revocation, withdrawal, suspension, cancellation, termination or material modification of any Company Regulatory Permit. The Company has made available to Parent all information requested by Parent in the Company's possession or control relating to material Company Product Candidates and the development, testing, manufacturing, processing, storage, labeling, sale, marketing, advertising, distribution and importation or exportation of the Company Product Candidates, including but not limited to complete copies of the following (to the extent there are any): (y) adverse event reports; pre-clinical, clinical and other study reports and material study data; inspection reports, notices of adverse findings, untitled letters, warning letters, filings and letters and other written correspondence to and from any Drug/Device Regulatory Agency and meeting minutes with any Drug/Device Regulatory Agency and (z) similar reports, material study data, notices, letters, filings, correspondence and meeting minutes with any other Governmental Authority. All such information is accurate and complete in all material respects.

(e) All clinical, pre-clinical and other studies and tests conducted by or on behalf of, or sponsored by, the Company, or in which the Company or its current products or product candidates, including the Company Product Candidates, have participated, were, since January 1, 2020, and, if still pending, are being conducted in accordance in all material respects with standard medical and scientific research procedures, in accordance in all material respects with the applicable protocols and in compliance in all material respects with the applicable regulations of the Drug/Device Regulatory Agencies and other applicable Laws, including 21 C.F.R. Parts 11, 50, 54, 56, 58, 312 and 812. Since January 1, 2020, the Company has not received any written notices, correspondence or other communications from any Drug/Device Regulatory Agency, Governmental Authority, institutional review board, ethics committee or safety monitoring committee requiring or, to the Knowledge of the Company, threatening to initiate any action to place a clinical hold order on, or otherwise terminate, delay or suspend any clinical studies conducted by or on behalf of, or sponsored by, the Company or in which the Company or its current products or product candidates, including the Company Product Candidates, have participated. Further, no clinical investigator, researcher or clinical staff participating in any clinical study conducted by or, to the Knowledge of the Company, on behalf of the Company has been disqualified from participating in studies involving the Company Product Candidates, and to the Knowledge of the Company, no

such administrative action to disqualify such clinical investigators, researchers or clinical staff has been threatened or is pending.

(f) The Company is not, and to the Knowledge of the Company, no contract manufacturer with respect to any Company Product Candidate, is the subject of any pending or, to the Knowledge of the Company, threatened investigation in respect of its business or products, including Company Product Candidates, by the FDA pursuant to its "Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities" Final Policy set forth in 56 Fed. Reg. 46191 (September 10, 1991) and any amendments thereto or by any other Drug/Device Regulatory Agency under a comparable policy. The Company has not, and to the Knowledge of the Company, no contract manufacturer, nor their respective officers, employees or agents, with respect to any Company Product Candidate has committed any acts, made any statement or failed to make any statement, in each case in respect of its business or products that would violate the FDA's "Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities" Final Policy, and any amendments thereto or a comparable policy of any other Drug/Device Regulatory Agency. None of the Company, and to the Knowledge of the Company, any contract manufacturer with respect to any Company Product Candidate, or any of their respective officers, employees or agents is currently or has been debarred, convicted of any crime or is engaging or has engaged in any conduct that could result in a debarment or exclusion under (i) 21 U.S.C. Section 335a or (ii) any similar applicable Law. To the Knowledge of the Company, no debarment or exclusionary claims, actions, proceedings or investigations in respect of their business or products are pending or threatened against the Company, and to the Knowledge of the Company, any contract manufacturer with respect to any Company Product Candidate, or any of their respective officers, employees or agents.

(g) All manufacturing operations conducted by, or to the Knowledge of the Company, for the benefit of the Company in connection with any Company Product Candidate, since January 1, 2020, have been and are being conducted in compliance in all material respects with applicable Laws, including the FDA's standards for current good manufacturing practices, including applicable requirements contained in 21 C.F.R. Parts 210, 211 and 600-610 and the respective counterparts thereof promulgated by Governmental Authorities in countries outside the United States.

(h) Neither the Company nor, to the Knowledge of the Company, any manufacturing site of a contract manufacturer or laboratory, with respect to any Company Product Candidate, (i) is subject to a Drug/Device Regulatory Agency shutdown or import or export prohibition or (ii) has received any Form FDA 483, notice of violation, warning letter, untitled letter, reviews (including data integrity reviews) or similar correspondence or notice from the FDA or other Drug/Device Regulatory Agency alleging or asserting noncompliance with any applicable Law, in each case, that have not been complied with or closed to the satisfaction of the relevant Drug/Device Regulatory Agency, and, to the Knowledge of the Company, neither the FDA nor any other Drug/Device Regulatory Agency is considering such action.

3.15 Legal Proceedings; Orders.

(a) There is no pending Legal Proceeding and, to the Knowledge of the Company, no Person has threatened to commence any Legal Proceeding: (i) that involves the Company or any Company Associate (in his or her capacity as such) or any of the material assets owned or used by the Company or (ii) that challenges, or that may have the effect of preventing, delaying, making illegal or otherwise interfering with, the Contemplated Transactions. Since January 1, 2020, no Legal Proceeding has been pending against the Company that resulted in material liability to the Company.

(b) There is no Order to which the Company, or any of the material assets owned or used by the Company, is subject. To the Knowledge of the Company, no officer or Company Key Employee is subject to any Order that prohibits such officer or Company Key Employee from engaging in or continuing any conduct, activity or practice relating to the business of the Company or any material assets owned or used by the Company.

3.16 Tax Matters.

(a) The Company has timely filed (or caused to be timely filed) all income Tax Returns and all other material Tax Returns required to be filed by the Company under applicable Law (taking into account any applicable extensions). All such Tax Returns were true, correct and complete in all material respects. Subject to exceptions as would not be material, no claim has been made by a Governmental Authority in a jurisdiction where the Company does not file Tax Returns that the Company is subject to taxation by that jurisdiction.

(b) All material amounts of Taxes due and owing by the Company (whether or not shown on any Tax Return) have been timely paid (taking into account any applicable extensions).

(c) The Company has withheld and paid to the appropriate Governmental Authority all material Taxes required to have been withheld and paid in connection with any amounts paid or owing to any employee, independent contractor, creditor, stockholder or other third party.

(d) There are no Encumbrances for a material amount of Taxes (other than Encumbrances described in clause (a) of the definition of "Permitted Encumbrances") upon any of the assets of the Company.

(e) No deficiencies for a material amount of Taxes with respect to the Company have been claimed, proposed or assessed by any Governmental Authority in writing that have not been timely paid in full. There are no pending (or, based on written notice, threatened) material audits, assessments, examinations or other actions for or relating to any Liability in respect of Taxes of the Company. The Company has not granted a waiver of any statute of limitations in respect of a material amount of Taxes or an extension of time with respect to a material Tax assessment or deficiency that, in each case, is currently in effect.

(f) The Company has not been a "United States real property holding corporation" within the meaning of Section 897(c)(2) of the Code in the last five (5) years.

(g) The Company is not a party to any Tax allocation, Tax sharing or similar agreement (including indemnity arrangements), other than customary commercial Contracts entered into in the Ordinary Course of Business the primary purpose of which does not relate to Tax (an "**Ordinary Course Agreement**").

(h) The Company has not been a member of an affiliated group filing a consolidated U.S. federal income Tax Return (other than a group the common parent of which is the Company). The Company has no material Liability for the Taxes of any Person under Treasury Regulations Section 1.1502-6 (or any similar provision of state, local, or foreign Law), as a transferee or successor, or by Contract (other than an Ordinary Course Agreement).

(i) The Company has not distributed stock of another Person, or has had its stock distributed by another Person, in a transaction that was purported or intended to be governed in whole or in part by Section 355 of the Code or Section 361 of the Code.

(j) The Company has not entered into any transaction identified as a "listed transaction" for purposes of Treasury Regulations Sections 1.6011-4(b)(2) or 301.6111-2(b)(2).

(k) The Company is not aware of any facts or circumstances and has not taken or agreed to take any action, in each case, that would reasonably be expected to prevent or impede the Intended Tax Treatment.

3.17 Employee and Labor Matters; Benefit Plans.

(a) There has not been, and the Company does not anticipate or have any reason to believe that there will be, any adverse change in relations with employees as a result of the announcement of the transactions

contemplated by this Agreement. To the Knowledge of the Company, no current employee or officer of the Company intends, or is expected, to terminate his or her employment relationship with such Entity following the consummation of the transactions contemplated by this Agreement or otherwise.

(b) The employment of the Company's employees is terminable by the Company at will. The Company has made available to Parent accurate and complete copies of all employee manuals and handbooks, disclosure materials, policy statements and other materials relating to the employment of the Company Associates to the extent currently effective and material.

(c) The Company is a not party to, is not bound by the terms of, and does not have a duty to bargain under, any collective bargaining agreement or other Contract with a labor organization representing its employees, and there are no labor unions, labor organizations or similar employee groups representing or, to the Knowledge of the Company, purporting to represent or seeking to represent any employees of the Company.

(d) Section 3.17(d) of the Company Disclosure Schedule lists all Company Employee Plans (other than employment arrangements which are terminable "at will" without any contractual obligation on the part of the Company to make any severance, termination, change in control or similar payment).

(e) Each Company Employee Plan that is intended to be qualified under Section 401(a) of the Code has received a favorable determination or opinion letter with respect to such qualified status from the IRS. To the Knowledge of the Company, nothing has occurred that would reasonably be expected to adversely affect the qualified status of any such Company Employee Plan or the exempt status of any related trust.

(f) Each Company Employee Plan has been established, maintained and operated in compliance, in all material respects, with its terms and with all applicable Law, including, without limitation, the Code, ERISA and the Affordable Care Act. The Company has performed all material obligations required to be performed by them and is not in any material respect in default under or in violation under any Company Employee Plan, nor to Knowledge of the Company, is any other party to any Company Employee Plan in such default or violation. No Legal Proceeding (other than those relating to routine claims for benefits) is pending or, to the Knowledge of the Company, threatened with respect to any Company Employee Plan, and no Company Employee Plan is under audit or is the subject of an audit or other investigation by a Governmental Authority. All payments and/or contributions required to have been made with respect to all Company Employee Plans either have been made or have been accrued in accordance with the terms of the applicable Company Employee Plan and applicable Law.

(g) Neither the Company nor any of its ERISA Affiliates maintains, sponsors, participates in, contributes to or is required to contribute to, or has, any Liability, including on account of an event since the date of the formation of the Company, with respect to (i) any "employee benefit plan" that is or was subject to Title IV or Section 302 of ERISA or Section 412 of the Code, (ii) any other defined benefit pension plan, whether or not subject to ERISA, (iii) a Multiemployer Plan, (iv) any funded welfare benefit plan within the meaning of Section 419 of the Code, (v) any Multiple Employer Plan, or (vi) any Multiple Employer Welfare Arrangement. Neither the Company nor any of its ERISA Affiliates is subject to, or has ever incurred any liability under, Title IV of ERISA.

(h) No Company Employee Plan promises or provides for medical or other welfare benefits to any service provider beyond termination of service or retirement, other than (i) pursuant to COBRA or an analogous state Law requirement or (ii) continuation coverage through the end of the month in which such termination or retirement occurs. The Company does not sponsor or maintain any self-funded medical or long-term disability benefit plan.

(i) Neither the Company nor, to the Knowledge of the Company, any of its respective directors, officers, employees or agents has, with respect to any Company Employee Plan, engaged in or been a party to

any non-exempt "prohibited transactions" (as defined in Section 4975 of the Code or Section 406 of ERISA) that could reasonably be expected to result in the imposition of a penalty assessed pursuant to Section 502(i) of ERISA or a Tax imposed by Section 4975 of the Code, in each case applicable to the Company or any Company Employee Plan.

(j) No Company Employee Plan is subject to any Law of a foreign jurisdiction outside of the United States.

(k) Each Company Employee Plan that constitutes in any part a "nonqualified deferred compensation plan" (as such term is defined under Section 409A(d)(1) of the Code and the guidance thereunder) (each, a "**Company 409A Plan**") has been operated and maintained in all material respects in operational and documentary compliance with the requirements of Section 409A of the Code and the applicable guidance thereunder. No payment to be made under any Company 409A Plan is or, when made in accordance with the terms of the Company 409A Plan, will be subject to the penalties of Section 409A(a)(1) of the Code.

(l) The Company is, and has been, in material compliance with all applicable federal, state and local laws, rules and regulations respecting employment, employment practices, terms and conditions of employment, worker classification, tax withholding, prohibited discrimination, retaliation and harassment, equal employment, fair employment practices, meal and rest periods, immigration status and authorization to work, employee and workplace safety and health, wages (including overtime wages), compensation, hours of work, "plant closings" and "mass layoffs" within the meaning of the Worker Adjustment and Retraining Act of 1988 or similar state or local law (the "**WARN Act**"), labor practices or disputes, restrictive covenants, employment agreements, workers' compensation and long-term disability policies, leaves of absence and worker privacy (collectively, "**Employment-Related Laws**"), and in each case, with respect to the employees of the Company: (i) has reported and paid to the appropriate Governmental Authority, or are holding for payment not yet due to such Governmental Authority, all material amounts required by law or by agreement to be withheld, paid and reported with respect to wages, salaries and other payments to employees, (ii) is not liable for any material amounts of arrears of wages, severance pay or any Taxes or any penalty for failure to comply with any of the foregoing or any applicable Laws relating to the employment of labor and (iii) is not liable for any material payment to any trust or other fund governed by or maintained by or on behalf of any Governmental Authority, with respect to unemployment compensation benefits, social security or other benefits or obligations for employees (other than routine payments to be made in the Ordinary Course of Business). The Company has paid in full to all of its employees or adequately accrued in accordance with GAAP for all wages, salaries, commissions, bonuses, benefits and other compensation due to or on behalf of such employees. There are no material Legal Proceedings, claims, labor disputes or organizing activities, or grievances pending, or, to the Knowledge of the Company, threatened or reasonably anticipated against or involving the Company or any trustee of the Company relating to any employee, contingent worker, director, employment agreement or Employee Plan (other than routine claims for benefits) or Employment -Related Laws. To the Knowledge of the Company, there are no material pending or threatened or reasonably anticipated claims or actions against the Company or any trustee of the Company under any workers' compensation policy or long-term disability policy. The Company is not a party to, or otherwise bound by, a conciliation agreement, consent decree, citation or other agreement or Order with any federal, state or local agency or Governmental Authority with respect to employees or employment practices.

(m) The Company does not have any material liability with respect to any misclassification within the past four (4) years of: (i) any Person as an independent contractor rather than as an employee, (ii) any employee leased from another employer or (iii) any employee currently or formerly classified as exempt from overtime wages. The Company has not taken any action which would constitute a "plant closing" or "mass layoff" within the meaning of the WARN Act or any similar Law, issued any notification of a plant closing or mass layoff required by the WARN Act or any similar Law (nor has the Company been under any requirement or obligation to issue any such notification), or incurred any liability or obligation under the WARN Act or any similar Law that remains unsatisfied.

(n) There has never been, nor has there been any threat of, any strike, slowdown, work stoppage, lockout, job action, union, organizing activity, question concerning representation or any similar activity or dispute, affecting the Company. No event has occurred within the past six months, and no condition or circumstance exists, that, to the Knowledge of the Company, might directly or indirectly be likely to give rise to or provide a basis for the commencement of any such strike, slowdown, work stoppage, lockout, job action, union organizing activity, question concerning representation or any similar activity or dispute.

(o) The Company is not, and has not been, engaged in any material unfair labor practice within the meaning of the National Labor Relations Act. There is no material Legal Proceeding, claim, labor dispute or grievance pending or, to the Knowledge of the Company, threatened or reasonably anticipated relating to any employment contract, privacy right, labor dispute, wages and hours, leave of absence, plant closing notification, workers' compensation policy, long-term disability policy, harassment, retaliation, immigration, employment statute or regulation, safety or discrimination matter involving any current or former employee of the Company including charges of unfair labor practices or discrimination complaints. Neither the Company nor any of its executive officers has received within the past three years any notice of intent by any Governmental Authority responsible for the enforcement of labor or employment Laws to conduct an investigation relating to the Company and, to the Knowledge of the Company, no such investigation is in progress.

(p) Except as set forth on Section 3.17(p) of the Company Disclosure Schedule, since January 1, 2020: (i) no allegations of workplace sexual harassment, discrimination or other misconduct have been made, initiated, filed or, to the Knowledge of the Company, threatened against the Company or any of its employees in their capacities as such, (ii) to the Knowledge of the Company, no incidents of any such workplace sexual harassment, discrimination or other misconduct have occurred, and (iii) the Company has not entered into any settlement agreement related to allegations of sexual harassment, discrimination or other misconduct by any of their employees directors, officers or employees described in clause (i) hereof or any independent contractor.

(q) There is no contract, agreement, plan or arrangement to which the Company is a party or by which it is bound to compensate any of its employees or other service providers for any income or excise taxes paid pursuant to the Code, including, but not limited to, Section 4999 or Section 409A of the Code.

(r) There is no Company Employee Plan nor any Contract that the Company is a party to that, as a result of the execution and delivery of this Agreement, the stockholder approval of this Agreement, or the consummation of the transactions contemplated hereby, could (either alone or in conjunction with any other event) result in, or cause the accelerated vesting, payment, funding or delivery of, or increase the amount or value of, any payment or benefit to any employee, officer, director or other service provider of the Company.

3.18 Environmental Matters. Since January 1, 2020, the Company has complied with all applicable Environmental Laws, which compliance includes the possession by the Company of all permits and other Governmental Authorizations required under applicable Environmental Laws and compliance with the terms and conditions thereof, except for any failure to be in compliance that, individually or in the aggregate, would not result in a Company Material Adverse Effect. Since January 1, 2020, the Company has not received any written notice or other communication (in writing or otherwise), whether from a Governmental Authority, citizens group, employee or otherwise, that alleges that the Company is not in compliance with any Environmental Law and, to the Knowledge of the Company, there are no circumstances that may prevent or interfere with the Company's compliance with any Environmental Law in the future, except where such failure to comply would not reasonably be expected to have a Company Material Adverse Effect. To the Knowledge of the Company: (a) no current or prior owner of any property leased or controlled by the Company since January 1, 2020, has received any written notice or other communication relating to property owned or leased at any time by the Company, whether from a Governmental Authority, citizens group, employee or otherwise, that alleges that such current or prior owner or the Company is not in compliance with or violated any Environmental Law relating to such property and (b) the Company has no material liability under any Environmental Law.

3.19 Insurance. The Company has made available to Parent accurate and complete copies of all material insurance policies and all material self-insurance programs and arrangements relating to the business, assets, liabilities and operations of the Company. Each of such insurance policies is in full force and effect and the Company is in compliance in all material respects with the terms thereof. Other than customary end of policy notifications from insurance carriers, since January 1, 2020, the Company has not received any notice or other communication regarding any actual or possible: (a) cancellation or invalidation of any insurance policy or (b) refusal or denial of any coverage, reservation of rights or rejection of any material claim under any insurance policy. The Company has provided timely written notice to the appropriate insurance carrier(s) of each Legal Proceeding pending against the Company, and no such carrier has issued a denial of coverage or a reservation of rights with respect to any such Legal Proceeding, or informed the Company of its intent to do so.

3.20 No Financial Advisors. Except as set forth on Section 3.20 of the Company Disclosure Schedule, no broker, finder or investment banker is entitled to any brokerage fee, finder's fee, opinion fee, success fee, transaction fee or other fee or commission in connection with the Contemplated Transactions based upon arrangements made by or on behalf of the Company.

3.21 Transactions with Affiliates.

(a) Section 3.21(a) of the Company Disclosure Schedule describes any material transactions or relationships between, on one hand, the Company and, on the other hand, any (i) executive officer or director of the Company or any of such executive officer's or director's immediate family members, (ii) owner of more than 5% of the voting power of the outstanding Company Capital Stock or (iii) to the Knowledge of the Company, any "related person" (within the meaning of Item 404 of Regulation S-K under the Securities Act) of any such officer, director or owner (other than the Company) in the case of each of clauses (i), (ii) or (iii) that is of the type that would be required to be disclosed under Item 404 of Regulation S-K under the Securities Act.

(b) Section 3.21(b) of the Company Disclosure Schedule lists each stockholders' agreement, voting agreement, registration rights agreement, co-sale agreement or other similar Company Contract between the Company and any holders of Company Capital Stock, including any such Contract granting any Person investor rights, rights of first refusal, rights of first offer, registration rights, director designation rights or similar rights.

3.22 Privacy and Data Security. The Company has complied with all applicable Privacy Laws and the applicable terms of any Company Contracts relating to privacy, security, collection or use of Personal Information of any individuals (including clinical trial participants, patients, patient family members, caregivers or advocates, physicians and other health care professionals, clinical trial investigators, researchers and pharmacists) that interact with the Company in connection with the operation of the Company's business, except for such noncompliance as has not had, and would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect. To the Knowledge of the Company, the Company has implemented and maintains reasonable written policies and procedures, satisfying the requirements of applicable Privacy Laws, concerning the privacy, security, collection and use of Personal Information (the "**Privacy Policies**") and has complied with its Privacy Policies, except for such noncompliance as has not to the Knowledge of the Company had, and would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect. To the Knowledge of the Company, as of the date hereof, no claims have been asserted or threatened against the Company by any Person alleging a violation of Privacy Laws, Privacy Policies and/or the applicable terms of any Company Contracts relating to privacy, security, collection or use of Personal Information of any individuals. To the Knowledge of the Company, there have been no data security incidents, personal data breaches or other adverse events or incidents related to Personal Information or Company data in the custody or control of the Company or any service provider acting on behalf of the Company, in each case where such incident, breach or event would result in a notification obligation to any Person under applicable law or pursuant to the terms of any Company Contract.

3.23 No Other Representations or Warranties. The Company hereby acknowledges and agrees that, except for the representations and warranties contained in this Agreement, neither Parent nor any other person on behalf of Parent makes any express or implied representation or warranty with respect to Parent or with respect to any other information provided to the Company, any of its stockholders or any of their respective Affiliates in connection with the Contemplated Transactions, and (subject to the express representations and warranties of Parent set forth in Section 4 (in each case as qualified and limited by the Parent Disclosure Schedule)) none of the Company, or any of its Representatives or stockholders, has relied on any such information (including the accuracy or completeness thereof).

Section 4. Representations and Warranties of Parent and Merger Sub.

Except (i) as set forth in the written disclosure schedule delivered by Parent to the Company (the "**Parent Disclosure Schedule**") or (ii) as disclosed in the Parent SEC Documents filed with the SEC prior to the date hereof and publicly available on the SEC's Electronic Data Gathering Analysis and Retrieval system (but (A) without giving effect to any amendment thereof filed with, or furnished to the SEC on or after the date hereof and (B) excluding any disclosures contained under the heading "Risk Factors" and any disclosure of risks included in any "forward-looking statements" disclaimer or in any other section to the extent they are forward-looking statements or cautionary, predictive or forward-looking in nature), it being understood that any matter disclosed in the Parent SEC Documents shall be deemed to be disclosed in a section of the Parent Disclosure Schedule only to the extent that is readily apparent from a reading of such Parent SEC Documents that is applicable to such section or subsection of the Parent Disclosure Schedule, Parent and Merger Sub represent and warrant to the Company as follows:

4.1 Due Organization; Subsidiary.

(a) Each of Parent and Merger Sub is a corporation duly incorporated, validly existing and in good standing under the Laws of the jurisdiction of its incorporation or organization and has all necessary corporate power and authority: (i) to conduct its business in the manner in which its business is currently being conducted, (ii) to own or lease and use its property and assets in the manner in which its property and assets are currently owned or leased and used and (iii) to perform its obligations under all Contracts by which it is bound. Since the date of their formation, Merger Sub have not engaged in any activities other than in connection with or as contemplated by this Agreement. Parent's Subsidiary is wholly owned by Parent.

(b) Parent is duly licensed and qualified to do business, and is in good standing (to the extent applicable in such jurisdiction), under the Laws of all jurisdictions where the nature of its business in the manner in which its business is currently being conducted requires such licensing or qualification other than in jurisdictions where the failure to be so qualified individually or in the aggregate would not be reasonably expected to have a Parent Material Adverse Effect.

(c) Except as set forth on Section 4.1(c) of the Parent Disclosure Schedule, Parent has no Subsidiaries other than Merger Sub and Parent does not own any capital stock of, or any equity ownership or profit sharing interest of any nature in, or control directly or indirectly, any other Entity other than Merger Sub. Parent is not and has not otherwise been, directly or indirectly, a party to, member of or participant in any partnership, joint venture or similar business Entity. Parent has not agreed and is not obligated to make, nor is Parent bound by any Contract under which it may become obligated to make, any future investment in or capital contribution to any other Entity. Parent has not, at any time, been a general partner of, and has not otherwise been liable for any of the debts or other obligations of, any general partnership, limited partnership or other Entity.

4.2 Organizational Documents. Parent has delivered to the Company accurate and complete copies of Organizational Documents of Parent. Parent is not in material breach or violation of its Organizational Documents in any material respect.

4.3 Authority; Binding Nature of Agreement. Each of Parent and Merger Sub has all necessary corporate power and authority to enter into and to perform its obligations under this Agreement and to consummate the Contemplated Transactions. The Parent Board (at meetings duly called and held) has: (a) determined that the Contemplated Transactions are fair to, advisable and in the best interests of Parent and its stockholders, (b) approved and declared advisable this Agreement and the Contemplated Transactions, including the issuance of shares of Parent Common Stock and Parent Pre-Funded Warrants to the stockholders of the Company pursuant to the terms of this Agreement and (c) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholders of Parent vote to approve the Contemplated Transactions, and, if deemed necessary by Parent and the Company, the Nasdaq Reverse Split pursuant to the terms of this Agreement. The Merger Sub Board (by unanimous written consent) has: (x) determined that the Contemplated Transactions are fair to, advisable and in the best interests of Merger Sub and its sole stockholder, (y) deemed advisable and approved this Agreement and the Contemplated Transactions and (z) determined to recommend, upon the terms and subject to the conditions set forth in this Agreement, that the stockholder of Merger Sub vote to adopt this Agreement and thereby approve the Contemplated Transactions. This Agreement has been duly executed and delivered by Parent and Merger Sub and, assuming the due authorization, execution and delivery by the Company, constitutes the legal, valid and binding obligation of Parent and Merger Sub, enforceable against each of Parent and Merger Sub in accordance with its terms, subject to the Enforceability Exceptions.

4.4 Vote Required. The affirmative vote of a majority of (a) the shares of Parent Common Stock properly cast is the only vote of the holders of any class or series of Parent's capital stock necessary to approve this Agreement and thereby approve the Contemplated Transactions, including the issuance of shares of Parent Common Stock and Parent Pre-Funded Warrants to the stockholders of the Company pursuant to the terms of this Agreement (the "**Parent Stockholder Merger Vote**") and (b) if deemed necessary by Parent and the Company by mutual agreement, the shares of Parent Common Stock entitled to vote thereon is the only vote of the holders of any class or series of Parent's capital stock necessary to approve an amendment to Parent's certificate of incorporation to effect the Nasdaq Reverse Split and/or increase the number of shares of Parent Common Stock (together with the Parent Stockholder Merger Vote, the "**Parent Stockholder Vote**").

4.5 Non-Contravention; Consents.

(a) Subject to obtaining the Parent Stockholder Vote and the filing of the Certificate of Merger required by the DGCL, neither (x) the execution, delivery or performance of this Agreement by Parent or Merger Sub, nor (y) the consummation of the Contemplated Transactions, will directly or indirectly (with or without notice or lapse of time):

(i) contravene, conflict with or result in a violation of any of the provisions of the Organizational Documents of Parent or its Subsidiary;

(ii) contravene, conflict with or result in a material violation of, or give any Governmental Authority or other Person the right to challenge the Contemplated Transactions or to exercise any remedy or obtain any relief under, any Law or any Order to which Parent or its Subsidiary or any of the assets owned or used by Parent or its Subsidiary, is subject, except as would not reasonably be expected to be material to Parent;

(iii) contravene, conflict with or result in a material violation of any of the terms or requirements of, or give any Governmental Authority the right to revoke, withdraw, suspend, cancel, terminate or modify, any Governmental Authorization that is held by Parent or its Subsidiary or that otherwise relates to the business of Parent, or any of the assets owned, leased or used by Parent, except as would not reasonably be expected to be material to Parent;

(iv) contravene, conflict with or result in a violation or breach of, or result in a default under, any provision of any Parent Material Contract, or give any Person the right to: (A) declare a default or exercise any remedy under any Parent Material Contract, (B) any material payment,

rebate, chargeback, penalty or change in delivery schedule under any such Parent Material Contract, (C) accelerate the maturity or performance of any Parent Material Contract or (D) cancel, terminate or modify any term of any Parent Material Contract, except in the case of any nonmaterial breach, default, penalty or modification; or

(v) result in the imposition or creation of any Encumbrance upon or with respect to any asset owned or used by Parent or its Subsidiary (except for Permitted Encumbrances).

(b) Except for (i) any Consent set forth on Section 4.5 of the Parent Disclosure Schedule under any Parent Contract, (ii) the Parent Stockholder Vote, (iii) the filing of the Certificate of Merger with the Secretary of State of the State of Delaware pursuant to the DGCL, and (iv) such consents, waivers, approvals, orders, authorizations, registrations, declarations and filings as may be required under applicable federal and state securities Laws, neither Parent nor its Subsidiary, was, is or will be required to make any filing with or give any notice to, or to obtain any Consent from, any Person in connection with (x) the execution, delivery or performance of this Agreement or (y) the consummation of the Contemplated Transactions, which if individually or in the aggregate were not given or obtained, would reasonably be expected to prevent or materially delay the ability of Parent and Merger Sub to consummate the Contemplated Transactions.

(c) The Parent Board and the Merger Sub Board have taken and will take all actions necessary to ensure that the restrictions applicable to business combinations contained in Section 203 of the DGCL are, and will be, inapplicable to the execution, delivery and performance of this Agreement and to the consummation of the Contemplated Transactions. No other state takeover statute or similar Law applies or purports to apply to the Merger, this Agreement or any of the other Contemplated Transactions.

4.6 Capitalization.

(a) The authorized capital stock of Parent consists of (i) 100,000,000 shares of Parent Common Stock of which 44,021,429 shares have been issued and are outstanding as of July 14, 2023 (the "**Capitalization Date**") and (ii) 5,000,000 shares of Parent Preferred Stock, par value $0.000001 per share, of which no shares have been issued and are outstanding as of the Capitalization Date. Parent does not hold any shares of its capital stock in its treasury.

(b) All of the outstanding shares of Parent Common Stock have been duly authorized and validly issued, and are fully paid and nonassessable and are free of any Encumbrances. None of the outstanding shares of Parent Common Stock is entitled or subject to any preemptive right, right of participation, right of maintenance or any similar right. None of the outstanding shares of Parent Common Stock is subject to any right of first refusal in favor of Parent. Except as contemplated herein, there is no Parent Contract relating to the voting or registration of, or restricting any Person from purchasing, selling, pledging or otherwise disposing of (or granting any option or similar right with respect to), any shares of Parent Common Stock. Parent is not under any obligation, nor is Parent bound by any Contract pursuant to which it may become obligated, to repurchase, redeem or otherwise acquire any outstanding shares of Parent Common Stock or other securities. Section 4.6(b) of the Parent Disclosure Schedule accurately and completely describes all repurchase rights held by Parent with respect to shares of Parent Common Stock (including shares issued pursuant to the exercise of stock options) and specifies which of those repurchase rights are currently exercisable.

(c) Except for the Parent 2014 Equity Incentive Plan, as amended (the "**Parent Stock Plan**") and the Parent 2020 Employee Stock Purchase Plan (the "**Parent ESPP**"), and except as set forth on Section 4.6(c) of the Parent Disclosure Schedule, Parent does not have any stock option plan or any other plan, program, agreement or arrangement providing for any equity-based compensation for any Person. As of the Capitalization Date, Parent has reserved 15,440,810 shares of Parent Common Stock for issuance under the Parent Stock Plans, of which 3,042,914 shares have been reserved for issuance upon exercise or settlement of Parent Options and Parent Restricted Stock Units, as applicable, granted under the Parent Stock Plan, and 12,397,896 shares remain

available for future issuance pursuant to the Parent Stock Plan. As of the Capitalization Date, Parent has reserved 759,936 shares of Parent Common Stock for future issuance pursuant to the Parent ESPP (of which 212,807 shares have been issued and are currently outstanding). Section 4.6(c) of the Parent Disclosure Schedule sets forth the following information with respect to each Parent Option and Parent Restricted Stock Unit outstanding as of the Capitalization Date, as applicable: (i) the name of the holder, (ii) the number of shares of Parent Common Stock subject to such Parent Option and Parent Restricted Stock Units at the time of grant, (iii) the number of shares of Parent Common Stock subject to such Parent Option and Parent Restricted Stock Units as of the Capitalization Date, (iv) the exercise price of such Parent Option, (v) the date on which such Parent Option and Parent Restricted Stock Units was granted, (vi) the applicable vesting schedule, including any acceleration provisions and the number of vested and unvested shares as of the Capitalization Date, (vii) the date on which such Parent Option expires, and (viii) whether such Parent Option is intended to be an "incentive stock option" (as defined in the Code) or a nonqualified stock option. Parent has made available to the Company accurate and complete copies of equity incentive plans pursuant to which Parent has equity-based awards, the forms of all award agreements evidencing such equity-based awards and evidence of board and stockholder approval of the Parent Stock Plans and any amendments thereto.

(d) Section 4.6(d) of the Parent Disclosure Schedule lists, as of the Capitalization Date, (i) each holder of issued and outstanding warrants to purchase capital stock of Parent ("**Parent Warrants**"), (ii) the number and type of shares subject to each Parent Warrant, (iii) the exercise price of each Parent Warrant and (iv) the termination date of each Parent Warrant.

(e) Except for the outstanding Parent Options, Parent Restricted Stock Units and Parent Warrants or as set forth on Section 4.6(e) of the Parent Disclosure Schedule, there is no: (i) outstanding subscription, option, call, warrant or right (whether or not currently exercisable) to acquire any shares of the capital stock or other securities of Parent, (ii) outstanding security, instrument or obligation that is or may become convertible into or exchangeable for any shares of the capital stock or other securities of Parent, (iii) stockholder rights plan (or similar plan commonly referred to as a "poison pill") or Contract under which Parent is or may become obligated to sell or otherwise issue any shares of its capital stock or any other securities or (iv) condition or circumstance that could be reasonably likely to give rise to or provide a basis for the assertion of a claim by any Person to the effect that such Person is entitled to acquire or receive any shares of capital stock or other securities of Parent. There are no outstanding or authorized stock appreciation, phantom stock, profit participation or other similar rights with respect to Parent.

(f) All outstanding shares of Parent Common Stock, Parent Options, Parent Warrants, Parent Restricted Stock Units and other securities of Parent have been issued and granted in compliance with (i) all applicable securities laws and other applicable Law and (ii) all requirements set forth in applicable Contracts.

4.7 SEC Filings; Financial Statements.

(a) Since January 1, 2020, Parent has filed or furnished, as applicable, on a timely basis, all forms, statements, certifications, reports and documents required to be filed or furnished by it with the SEC under the Exchange Act or the Securities Act (the "**Parent SEC Documents**"). As of the time it was filed with the SEC (or, if amended or superseded by a filing prior to the date of this Agreement, then on the date of such filing), each of the Parent SEC Documents complied in all material respects with the applicable requirements of the Securities Act or the Exchange Act (as the case may be) and as of the time they were filed, none of the Parent SEC Documents contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. The certifications and statements required by (i) Rule 13a-14 under the Exchange Act and (ii) 18 U.S.C. §1350 (Section 906 of the Sarbanes-Oxley Act) relating to the Parent SEC Documents (collectively, the "**Certifications**") are accurate and complete and comply as to form and content with all applicable Laws. As used in this Section 4.7, the term "file" and variations thereof shall be broadly construed to include any manner in which a document or information is furnished, supplied or otherwise made available to the SEC.

(b) The financial statements (including any related notes) contained or incorporated by reference in the Parent SEC Documents: (i) complied as to form in all material respects with the Securities Act and the Exchange Act, as applicable, and the published rules and regulations of the SEC applicable thereto, (ii) were prepared in accordance with GAAP (except as may be indicated in the notes to such financial statements or, in the case of unaudited financial statements, as permitted by Form 10-Q of the SEC, and except that the unaudited financial statements may not contain footnotes and are subject to normal and recurring year-end adjustments that are not reasonably expected to be material in amount) applied on a consistent basis unless otherwise noted therein throughout the periods indicated and (iii) fairly present, in all material respects, the financial position of Parent as of the respective dates thereof and the results of operations and cash flows of Parent for the periods covered thereby. Other than as expressly disclosed in the Parent SEC Documents filed prior to the date hereof, there has been no material change in Parent's accounting methods or principles that would be required to be disclosed in Parent's financial statements in accordance with GAAP.

(c) Except as set forth on Section 4.7(c) of the Parent Disclosure Schedule, Parent has not received any comment letter from the SEC or the staff thereof or any correspondence from Nasdaq or the staff thereof relating to the delisting or maintenance of listing of the Parent Common Stock on Nasdaq.

(d) There have been no formal internal investigations regarding financial reporting or accounting policies and practices discussed with, reviewed by or initiated at the direction of the chief executive officer, chief financial officer or general counsel of Parent, the Parent Board or any committee thereof, other than ordinary course audits or reviews of accounting policies and practices or internal controls required by the Sarbanes-Oxley Act.

(e) Except as set forth on Section 4.7(e) of the Parent Disclosure Schedule, Parent is in compliance in all material respects with the applicable provisions of the Sarbanes-Oxley Act, the Exchange Act and the applicable listing and governance rules and regulations of Nasdaq.

(f) Parent maintains a system of internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) that is sufficient to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP to provide reasonable assurance (i) that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, (ii) that receipts and expenditures are made only in accordance with the authorization policy and (iii) regarding prevention or timely detection of the unauthorized acquisition, use or disposition of Parent's assets that could have a material effect on Parent's financial statements. Parent has evaluated the effectiveness of Parent's internal control over financial reporting and, to the extent required by applicable Law, presented in any applicable Parent SEC Document that is a report on Form 10-K or Form 10-Q (or any amendment thereto) its conclusions about the effectiveness of the internal control over financial reporting as of the end of the period covered by such report or amendment based on such evaluation. Parent has disclosed to Parent's auditors and the Audit Committee of the Parent Board (and made available to the Company a summary of the significant aspects of such disclosure) (x) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting that are reasonably likely to adversely affect Parent's ability to record, process, summarize and report financial information and (y) any fraud, whether or not material, that involves management or other employees who have a significant role in Parent's or its Subsidiary's internal control over financial reporting. Except as disclosed in the Parent SEC Documents filed prior to the date hereof, Parent's internal control over financial reporting is effective at the reasonable assurance level and Parent has not identified any material weaknesses in the design or operation of Parent's internal control over financial reporting.

(g) Parent's "disclosure controls and procedures" (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) are designed to ensure that all information (both financial and nonfinancial) required to be disclosed by Parent in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC, and that all such

information is accumulated and communicated to Parent's principal executive officer and principal financial officer as appropriate to allow timely decisions regarding required disclosure and to make the Certifications and such disclosure controls and procedures are effective.

4.8 Absence of Changes. Except as set forth on Section 4.8 of the Parent Disclosure Schedule, between March 31, 2023 and the date of this Agreement, Parent has conducted its business only in the Ordinary Course of Business (except for the execution and performance of this Agreement and the discussions, negotiations and transactions related thereto) and there has not been any (a) Parent Material Adverse Effect or (b) action, event or occurrence that would have required consent of Parent pursuant to Section 5.1(b) of this Agreement had such action, event or occurrence taken place after the execution and delivery of this Agreement.

4.9 Absence of Undisclosed Liabilities. Since March 31, 2023, neither Parent nor its Subsidiary has any Liability of a type required to be reflected or reserved for on a balance sheet prepared in accordance with GAAP, except for: (a) Liabilities disclosed, reflected or reserved against in the Parent Balance Sheet, (b) normal and recurring current Liabilities that have been incurred by Parent or its Subsidiary since the date of the Parent Balance Sheet in the Ordinary Course of Business (none of which relates to any breach of contract, breach of warranty, tort, infringement or violation of Law), (c) Liabilities for performance of obligations of Parent or its Subsidiary under Parent Contracts, (d) Liabilities incurred in connection with the Parent Legacy Business or the Contemplated Transactions and (e) Liabilities described in Section 4.9 of the Parent Disclosure Schedule.

4.10 Title to Assets. Each of Parent and its Subsidiary owns, and has good and valid title to, or, in the case of leased properties and assets, valid leasehold interests in, all tangible properties or tangible assets and equipment used or held for use in its business or operations or purported to be owned by it, including: (a) all tangible assets reflected on the Parent Balance Sheet and (b) all other tangible assets reflected in the books and records of Parent as being owned by Parent. All of such assets are owned or, in the case of leased assets, leased by Parent or its Subsidiary free and clear of any Encumbrances, other than Permitted Encumbrances.

4.11 Real Property; Leasehold. Neither Parent nor its Subsidiary owns or has ever owned any real property. Parent has made available to the Company (a) an accurate and complete list of all real properties with respect to which Parent directly or indirectly holds a valid leasehold interest as well as any other real estate that is in the possession of or leased by Parent or its Subsidiary and (b) copies of all leases under which any such real property is possessed (the "**Parent Real Estate Leases**"), each of which is in full force and effect, with no existing material default thereunder.

4.12 Intellectual Property.

(a) Section 4.12(a) of the Parent Disclosure Schedule is an accurate, true and complete listing of all Parent Registered IP.

(b) Section 4.12(b) of the Parent Disclosure Schedule accurately identifies (i) all Parent Contracts pursuant to which any Parent IP Rights are licensed to Parent (other than (A) any non-customized software that (1) is so licensed solely in executable or object code form pursuant to a nonexclusive, internal use software license and other Intellectual Property associated with such software and (2) is not incorporated into, or material to the development, manufacturing, or distribution of, any of Parent products or services, (B) any Intellectual Property licensed on a nonexclusive basis ancillary to the purchase or use of equipment, reagents or other materials, (C) any confidential information provided under confidentiality agreements and (D) agreements between Parent and its employees in Parent's standard form thereof) and (ii) whether the license or licenses granted to Parent are exclusive or nonexclusive.

(c) Section 4.12(c) of the Parent Disclosure Schedule accurately identifies each Parent Contract pursuant to which any Person has been granted any license or covenant not to sue under, or otherwise has received or acquired any right (whether or not currently exercisable) or interest in, any Parent IP Rights (other

than (i) any confidential information provided under confidentiality agreements and (ii) any Parent IP Rights nonexclusively licensed to academic collaborators, suppliers or service providers for the sole purpose of enabling such academic collaborator, supplier or service providers to provide services for Parent's benefit).

(d) Neither Parent nor its Subsidiary is bound by, and no Parent IP Rights are subject to, any Contract containing any covenant or other provision that in any way limits or restricts the ability of Parent or its Subsidiary to use, exploit, assert, or enforce any Parent IP Rights anywhere in the world.

(e) Parent or its Subsidiary exclusively owns all right, title, and interest to and in the Parent IP Rights (other than (i) Parent IP Rights licensed to Parent, or co-owned rights each as identified in Section 4.12(c) of the Parent Disclosure Schedule, (ii) any non-customized software that (A) is licensed to Parent solely in executable or object code form pursuant to a nonexclusive, internal use software license and other Intellectual Property associated with such software and (B) is not incorporated into, or material to the development, manufacturing or distribution of, any of Parent or its Subsidiary's products or services and (iii) any Intellectual Property licensed on a nonexclusive basis ancillary to the purchase or use of equipment, reagents or other materials), in each case, free and clear of any Encumbrances (other than Permitted Encumbrances). Without limiting the generality of the foregoing:

(i) All documents and instruments necessary to register or apply for or renew registration of Parent Registered IP have been validly executed, delivered, and filed in a timely manner with the appropriate Governmental Authority.

(ii) Each Person who is or was an employee or contractor of Parent or its Subsidiary and who is or was involved in the creation or development of any Intellectual Property for Parent or its Subsidiary has signed a valid, enforceable agreement containing a present assignment of such Intellectual Property to Parent or such Subsidiary and confidentiality provisions protecting trade secrets and confidential information of Parent and its Subsidiary.

(iii) To the Knowledge of Parent, no current or former stockholder, officer, director or employee of Parent or its Subsidiary has any claim, right (whether or not currently exercisable), or interest to or in any Parent IP Rights purported to be owned by Parent. To the Knowledge of Parent, no employee of Parent or its Subsidiary is (A) bound by or otherwise subject to any Contract restricting him or her from performing his or her duties for Parent or such Subsidiary or (B) in breach of any Contract with any former employer or other Person concerning Parent IP Rights purported to be owned by Parent or such Subsidiary or confidentiality provisions protecting trade secrets and confidential information comprising Parent IP Rights purported to be owned by Parent or such Subsidiary.

(iv) No funding, facilities or personnel of any Governmental Authority were used, directly or indirectly, to develop or create, in whole or in part, any Parent IP Rights in which Parent or its Subsidiary has an ownership interest.

(v) Parent and its Subsidiary have taken reasonable steps to maintain the confidentiality of and otherwise protect and enforce their rights in all proprietary information that Parent or its Subsidiary holds, or purports to hold, as confidential or a trade secret.

(vi) Neither Parent nor its Subsidiary has assigned or otherwise transferred ownership of, or agreed to assign or otherwise transfer ownership of, any Parent IP Rights to any other Person.

(f) Parent has delivered, or made available to the Company, a complete and accurate copy of all material Parent IP Rights Agreements.

(g) Since January 1, 2020, to the Knowledge of Parent, the manufacture, marketing, offering for sale, sale, importation, use or intended use or other disposal of any product as currently sold or under development by Parent does not violate any license or agreement between Parent or its Subsidiary and any third

party in any material respect, and, to the Knowledge of Parent, does not infringe or misappropriate any valid and issued Patent right or other Intellectual Property of any other Person, which infringement or misappropriation would reasonably be expected to have a Parent Material Adverse Effect. To the Knowledge of Parent, no third party is infringing upon any Patents owned by Parent within the Parent IP Rights, or otherwise violating any Parent IP Rights Agreement.

(h) As of the date of this Agreement, Parent is not a party to any Legal Proceeding (including, but not limited to, opposition, interference or other proceeding in any patent or other government office) contesting the validity, enforceability, claim construction, ownership or right to use, sell, offer for sale, license or dispose of any Parent IP Rights. Parent has not received any written notice asserting that any Parent IP Rights or the proposed use, sale, offer for sale, license or disposition of any products, methods or processes claimed or covered thereunder infringes or misappropriates or violates the rights of any other Person or that Parent or its Subsidiary have otherwise infringed, misappropriated or otherwise violated any Intellectual Property of any Person. None of the Parent IP Rights is subject to any outstanding order of, judgment of, decree of or agreement with any Governmental Authority that limits the ability of the Parent to exploit any Parent IP Rights.

(i) Each item of Parent Registered IP is and at all times has been filed and maintained in compliance in all material respects with all applicable Law and all filings, payments and other actions required to be made or taken to maintain such item of Parent Registered IP in full force and effect have been made by the applicable deadline. To the Knowledge of Parent, all Parent Registered IP that is issued or granted is valid and enforceable.

(j) To the Knowledge of Parent, no trademark (whether registered or unregistered) or trade name owned, used or applied for by Parent conflicts or interferes with any trademark (whether registered or unregistered) or trade name owned, used or applied for by any other Person except as would not have a Parent Material Adverse Effect. None of the goodwill associated with or inherent in any trademark (whether registered or unregistered) in which Parent has or purports to have an ownership interest has been impaired as determined by Parent in accordance with GAAP.

(k) Except as set forth in the Contracts listed on Section 4.12(b) or 4.12(c) of the Parent Disclosure Schedule or as contained in license, distribution or service agreements entered into in the Ordinary Course of Business by Parent (i) Parent is not bound by any Contract to indemnify, defend, hold harmless or reimburse any other Person with respect to any Intellectual Property infringement, misappropriation or similar claim which is material to Parent taken as a whole and (ii) Parent has never assumed, or agreed to discharge or otherwise take responsibility for, any existing or potential liability of another Person for infringement, misappropriation or violation of any Intellectual Property right, which assumption, agreement or responsibility remains in force as of the date of this Agreement.

(l) Neither Parent nor its Subsidiary is party to any Contract that, as a result of such execution, delivery and performance of this Agreement, will cause the grant of any license or other right to any Parent IP Rights, result in breach of, default under or termination of such Contract with respect to any Parent IP Rights, or impair the right of Parent or the Surviving Corporation and its Subsidiary to use, sell or license or enforce any Parent IP Rights or portion thereof, except for the occurrence of any such grant or impairment that would not individually or in the aggregate, reasonably be expected to result in a Parent Material Adverse Effect.

4.13 Agreements, Contracts and Commitments.

(a) Section 4.13 of the Parent Disclosure Schedule identifies each Parent Contract that is in effect as of the date of this Agreement (each, a "**Parent Material Contract**" and collectively, the "**Parent Material Contracts**"):

(i) each Parent Contract requiring payments by Parent after the date of this Agreement in excess of $250,000 pursuant to its express terms relating to the employment of, or the

performance of employment-related services by, any Person, including any employee, consultant or independent contractor, or Entity providing employment related, consulting or independent contractor services, not terminable by Parent on thirty (30) calendar days' or less notice without liability, except to the extent general principles of wrongful termination Law may limit Parent's, or such successor's ability to terminate employees at will;

(ii) each Parent Contract relating to any agreement or plan, including any option plan, stock appreciation right plan or stock purchase plan, any of the benefits of which will be increased or the vesting of benefits of which will be accelerated, by the occurrence of any of the Contemplated Transactions (either alone or in conjunction with any other event, such as termination of employment), or the value of any of the benefits of which will be calculated on the basis of any of the Contemplated Transactions;

(iii) each Parent Contract relating to any agreement of indemnification or guaranty not entered into in the Ordinary Course of Business;

(iv) each Parent Contract containing (A) any covenant limiting the freedom of Parent or its Subsidiary to engage in any line of business or compete with any Person, or limiting the development, manufacture or distribution of the Parent's products or services, (B) any most-favored pricing arrangement, (C) any exclusivity provision or (D) any non-solicitation provision;

(v) each Parent Contract (A) pursuant to which any Person granted Parent an exclusive license under any Intellectual Property, or (B) pursuant to which Parent granted any Person an exclusive license under any Parent IP Rights;

(vi) each Parent Contract relating to capital expenditures and requiring payments after the date of this Agreement in excess of $100,000 pursuant to its express terms and not cancelable without penalty;

(vii) each Parent Contract relating to the disposition or acquisition of material assets or any ownership interest in any Entity, in each case, involving payments in excess of $100,000 after the date of this Agreement;

(viii) each Parent Contract relating to any mortgages, indentures, loans, notes or credit agreements, security agreements or other agreements or instruments relating to the borrowing of money or extension of credit in excess of $100,000 or creating any material Encumbrances with respect to any assets of Parent or any loans or debt obligations with officers or directors of Parent;

(ix) each Parent Contract requiring payment by or to Parent after the date of this Agreement in excess of $250,000 pursuant to its express terms relating to: (A) any distribution agreement (identifying any that contain exclusivity provisions), (B) any agreement involving provision of services or products with respect to any pre-clinical or clinical development activities of Parent, (C) any dealer, distributor, joint marketing, alliance, joint venture, cooperation, development or other agreement currently in force under which Parent or its Subsidiary has continuing obligations to develop or market any product, technology or service, or any agreement pursuant to which Parent or its Subsidiary has continuing obligations to develop any Intellectual Property that will not be owned, in whole or in part, by Parent or such Subsidiary or (D) any Contract to license any Patent, trademark registration, service mark registration, trade name or copyright registration to or from any third party to manufacture or produce any product, service or technology of Parent or its Subsidiary or any Contract to sell, distribute or commercialize any products or service of Parent or its Subsidiary;

(x) each Parent Contract with any Person, including any financial advisor, broker, finder, investment banker or other Person, providing advisory services to Parent in connection with the Contemplated Transactions and requiring payments by Parent after the date in this Agreement in excess of $250,000 pursuant to its express terms;

(xi) each Parent Contract to which Parent or its Subsidiary is a party or by which any of their assets and properties is currently bound, which involves annual obligations of payment by, or annual payments to, Parent or such Subsidiary in excess of $250,000;

(xii) any Parent Real Estate Lease, including the Parent Lease Agreements;

(xiii) each Contract with any academic institution or Governmental Authority;

(xiv) a Contract disclosed in or required to be disclosed in Section 4.12(b) or Section 4.12(c) of the Parent Disclosure Schedule;

(xv) each Contract containing any royalty, "earn-out," dividend or similar contingent payment arrangement, including (A) milestone or similar payments, including upon the achievement of regulatory or commercial milestones or (B) payment of royalties or other amounts calculated based on the revenues, income or profits of Parent or its Subsidiary;

(xvi) each material Contract between the Parent or any of its Subsidiaries and a contract research organization (other than, for the avoidance of doubt, any individual clinical trial site) providing for services to Parent involving management of clinical trials of any Parent's products;

(xvii) any Contract requiring that Parent use any level of efforts to develop any Intellectual Property or products or product candidates;

(xviii) any Contract relating to the election of directors or appointment of officers of Parent;

(xix) a Contract disclosed in or required to be disclosed in Section 4.20 of the Parent Disclosure Schedule; or

(xx) any other Parent Contract that is not terminable at will (with no penalty or payment) by Parent or its Subsidiary, and (A) which involves payment or receipt by Parent or such Subsidiary after the date of this Agreement under any such agreement, contract or commitment of more than $100,000 in the aggregate, or obligations after the date of this Agreement in excess of $100,000 in the aggregate or (B) that is material to the business or operations of Parent and its Subsidiary taken as a whole.

(b) Parent has delivered or made available to the Company accurate and complete copies of all Parent Material Contracts, including all amendments thereto. There are no Parent Material Contracts that are not in written form. Parent has not, nor, to Parent's Knowledge as of the date of this Agreement, has any other party to a Parent Material Contract, breached, violated, threatened to terminate or defaulted under, or received notice that it breached, violated, threatened to terminate or defaulted under, any of the terms or conditions of any Parent Material Contract in such manner as would permit any other party to cancel or terminate any such Parent Material Contract, or would permit any other party to seek damages which would reasonably be expected to have a Parent Material Adverse Effect. As to Parent and its Subsidiary, as of the date of this Agreement, each Parent Material Contract is valid, binding, enforceable and in full force and effect, subject to the Enforceability Exceptions. No Person is renegotiating, or has a right pursuant to the terms of any Parent Material Contract to change, any material amount paid or payable to Parent under any Parent Material Contract or any other material term or provision of any Parent Material Contract.

4.14 Compliance; Permits; Restrictions.

(a) Parent and its Subsidiary are, and since March 31, 2023, have been in material compliance with all applicable Laws. No investigation, claim, suit, proceeding, audit, Order or other Legal Proceeding or action by any Governmental Authority is pending or, to the Knowledge of Parent, threatened against Parent or its Subsidiary. There is no agreement or Order binding upon Parent or its Subsidiary which (i) has or would reasonably be expected to have the effect of prohibiting or materially impairing any business practice of Parent or its Subsidiary, any acquisition of material property by Parent or its Subsidiary or the conduct of business by

Parent or its Subsidiary as currently conducted, (ii) is reasonably likely to have an adverse effect on Parent's ability to comply with or perform any covenant or obligation under this Agreement or (iii) is reasonably likely to have the effect of preventing, delaying, making illegal or otherwise interfering with the Contemplated Transactions.

(b) Except for matters regarding the FDA or other Drug/Device Regulatory Agency, each of Parent and its Subsidiary holds all required Governmental Authorizations that are material to the operation of the business of Parent and Merger Sub as currently conducted (collectively, the "**Parent Permits**"). Section 4.14(b) of the Parent Disclosure Schedule identifies each Parent Permit. Each of Parent and its Subsidiary is in material compliance with the terms of the Parent Permits. No Legal Proceeding is pending or, to the Knowledge of Parent, threatened, which seeks to revoke, substantially limit, suspend or materially modify any Parent Permit. The rights and benefits of each Parent Permit, if any, will be available to Parent and Surviving Corporation immediately after the Effective Time on terms substantially identical to those enjoyed by Parent and its Subsidiary as of the date of this Agreement and immediately prior to the Effective Time.

(c) There are no Legal Proceedings pending or, to the Knowledge of Parent, threatened with respect to an alleged violation by Parent or its Subsidiary of the FDCA, PHSA or FDA regulations adopted thereunder, the Controlled Substances Act or any other similar Law promulgated by a Drug/Device Regulatory Agency.

(d) Each of Parent and its Subsidiary holds all required Governmental Authorizations issuable by any Drug/Device Regulatory Agency necessary for the conduct of the business of Parent and Merger Sub as currently conducted, and, as applicable, the development, testing, manufacturing, processing, storage, labeling, sale, marketing, advertising, distribution and importation or exportation, as currently conducted, of any of its product candidates (the "**Parent Product Candidates**") (collectively, the "**Parent Regulatory Permits**") and no such Parent Regulatory Permit has been (i) revoked, withdrawn, suspended, cancelled or terminated or (ii) modified in any adverse manner other than immaterial adverse modifications. Section 4.14(d) of the Parent Disclosure Schedule identifies and lists each Parent Regulatory Permit. Parent has timely maintained and is in compliance in all material respects with the Parent Regulatory Permits and neither Parent nor its Subsidiary has, since March 31, 2023, received any written notice or correspondence or, to the Knowledge of Parent, other communication from any Drug/Device Regulatory Agency regarding (w) any material violation of or failure to comply materially with any term or requirement of any Parent Regulatory Permit or (x) any revocation, withdrawal, suspension, cancellation, termination or material modification of any Parent Regulatory Permit. Parent has made available to the Company all information requested by the Company in Parent's or its Subsidiary's possession or control relating to material Parent Product Candidates and the development, testing, manufacturing, processing, storage, labeling, sale, marketing, advertising, distribution and importation or exportation of the Parent Product Candidates, including, but not limited to, complete copies of the following (to the extent there are any): (y) adverse event reports; pre-clinical, clinical and other study reports and material study data; inspection reports, notices of adverse findings, untitled letters, warning letters, filings and letters and other written correspondence to and from any Drug/Device Regulatory Agency; and meeting minutes with any Drug/Device Regulatory Agency and (z) similar reports, material study data, notices, letters, filings, correspondence and meeting minutes with any other Governmental Authority. All such information is accurate and complete in all material respects.

(e) All clinical, pre-clinical and other studies and tests conducted by or on behalf of, or sponsored by, Parent or its Subsidiary, in which Parent or its Subsidiary or their respective product candidates, including the Parent Product Candidates, have participated were, since March 31, 2023, and, if still pending, are being conducted in accordance in all material respects with standard medical and scientific research procedures, and in compliance in all material respects with the applicable regulations of the Drug/Device Regulatory Agencies and other applicable Law, including, without limitation, 21 C.F.R. Parts 11, 50, 54, 56, 58, 312 and 812. Other than as set forth on Section 4.14(e) of the Parent Disclosure Schedule, since March 31, 2023, neither Parent nor its Subsidiary has received any written notices, correspondence, or other communications from any Drug/Device

Regulatory Agency requiring or, to the Knowledge of Parent, any action to place a clinical hold order on, or otherwise terminate, delay or suspend any clinical studies conducted by or on behalf of, or sponsored by, Parent or its Subsidiaries or in which Parent or any of its Subsidiaries or its current product candidates, including the Parent Product Candidates, have participated. Further, no clinical investigator, researcher or clinical staff participating in any clinical study conducted by or, to the Knowledge of Parent, on behalf of Parent or its Subsidiary has been disqualified from participating in studies involving the Parent Product Candidates, and to the Knowledge of Parent, no such administrative action to disqualify such clinical investigators, researchers or clinical staff has been threatened or is pending.

(f) Neither Parent, its Subsidiary nor, to the Knowledge of Parent, any contract manufacturer with respect to any Parent Product Candidate is the subject of any pending or, to the Knowledge of Parent, threatened investigation in respect of its business or products by the FDA pursuant to its "Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities" Final Policy set forth in 56 Fed. Reg. 46191 (September 10, 1991) and any amendments thereto or by any other Drug/Device Regulatory Agency under a comparable policy. Neither Parent, its Subsidiary nor, to the Knowledge of Parent, any contract manufacturer, nor their respective officers, employees or agents, with respect to any Parent Product Candidate has committed any acts, made any statement or failed to make any statement, in each case in respect of its business or products that would violate the FDA's "Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities" Final Policy, and any amendments thereto. None of Parent, its Subsidiary, and, to the Knowledge of Parent, any contract manufacturer with respect to any Parent Product Candidate, or any of their respective officers, employees or agents is currently or has been debarred, convicted of any crime or is engaging or has engaged in any conduct that could result in a material debarment or exclusion under (i) 21 U.S.C. Section 335a or (ii) any similar applicable Law. To the Knowledge of Parent, no material debarment or exclusionary claims, actions, proceedings or investigations in respect of their business or products are pending or threatened against Parent, its Subsidiary, and to the Knowledge of the Parent, any contract manufacturer with respect to any Parent Product Candidate, or any of its officers, employees or agents.

(g) All manufacturing operations conducted by, or to the Knowledge of Parent, for the benefit of, Parent or its Subsidiary in connection with any Parent Product Candidate, since March 31, 2023, have been and are being conducted in compliance and in all material respects with applicable Laws, including the FDA's standards for current good manufacturing practices, including applicable requirements contained in 21 C.F.R. Parts 210, 211 and 600-610 and the respective counterparts thereof promulgated by Governmental Authorities in countries outside the United States.

(h) None of Parent, its Subsidiary, and to the Knowledge of Parent, any manufacturing site of a contract manufacturer or laboratory, with respect to any Parent Product Candidate, (i) is subject to a Drug/Device Regulatory Agency shutdown or import or export prohibition or (ii) has received any Form FDA 483, notice of violation, warning letter, untitled letter, reviews (including data integrity reviews) or similar correspondence or notice from the FDA or other Drug/Device Regulatory Agency alleging or asserting noncompliance with any applicable Law, in each case, that have not been complied with or closed to the satisfaction of the relevant Drug/Device Regulatory Agency, and, to the Knowledge of Parent, neither the FDA nor any other Drug/Device Regulatory Agency is considering such action.

4.15 Legal Proceedings; Orders.

(a) Except as set forth in Section 4.15 of the Parent Disclosure Schedule, there is no pending Legal Proceeding and, to the Knowledge of Parent, no Person has threatened to commence any Legal Proceeding: (i) that involves Parent or its Subsidiary or any Parent Associate (in his or her capacity as such) or any of the material assets owned or used by Parent or its Subsidiary or (ii) that challenges, or that may have the effect of preventing, delaying, making illegal or otherwise interfering with, the Contemplated Transactions. Since January 1, 2020, no Legal Proceeding has been pending against Parent that resulted in material liability to Parent.

(b) There is no Order to which Parent or its Subsidiary, or any of the material assets owned or used by Parent or its Subsidiary is subject. To the Knowledge of Parent, no officer or other Parent Key Employee or any of its Subsidiaries is subject to any Order that prohibits such officer or employee from engaging in or continuing any conduct, activity or practice relating to the business of Parent or its Subsidiary or to any material assets owned or used by Parent or its Subsidiary.

4.16 Tax Matters.

(a) Each of Parent and its Subsidiary has timely filed (or caused to be timely filed) all income Tax Returns and all other material Tax Returns required to be filed by it under applicable Law (taking into account any applicable extensions). All such Tax Returns were true, correct and complete in all material respects. Subject to exceptions as would not be material, no claim has been made by a Governmental Authority in a jurisdiction where Parent or its Subsidiary does not file Tax Returns that Parent or its Subsidiary is subject to taxation by that jurisdiction.

(b) All material amounts of Taxes due and owing by Parent or its Subsidiary (whether or not shown on any Tax Return) have been timely paid (taking into account any applicable extensions).

(c) Each of Parent and its Subsidiary has withheld and paid to the appropriate Governmental Authority all material Taxes required to have been withheld and paid in connection with any amounts paid or owing to any employee, independent contractor, creditor, stockholder or other third party.

(d) There are no Encumbrances for a material amount of Taxes (other than Encumbrances described in clause (a)of the definition of "Permitted Encumbrances") upon any of the assets of Parent or its Subsidiary.

(e) No deficiencies for a material amount of Taxes with respect to Parent or its Subsidiary have been claimed, proposed or assessed by any Governmental Authority in writing that have not been timely paid in full. There are no pending (or, based on written notice, threatened) material audits, examinations, assessments or other actions for or relating to any Liability in respect of Taxes of Parent or its Subsidiary. Neither Parent nor its Subsidiary has granted a waiver of any statute of limitations in respect of a material amount of Taxes or an extension of time with respect to a material Tax assessment or deficiency that, in each case, is currently in effect.

(f) Neither Parent nor its Subsidiary is a party to any Tax allocation, Tax sharing or similar agreement (including indemnity arrangements), other than Ordinary Course Agreements.

(g) Neither Parent nor its Subsidiary has been a member of an affiliated group filing a consolidated U.S. federal income Tax Return (other than a group the common parent of which is Parent). Neither Parent nor its Subsidiary has any material Liability for the Taxes of any Person (other than Parent or its Subsidiary) under Treasury Regulations Section 1.1502-6 (or any similar provision of state, local, or foreign Law), as a transferee or successor, or by Contract (other than an Ordinary Course Agreement).

(h) Neither Parent nor its Subsidiary has distributed stock of another Person, or has had its stock distributed by another Person, in a transaction that was purported or intended to be governed in whole or in part by Section 355 of the Code or Section 361 of the Code.

(i) Neither Parent nor its Subsidiary has entered into any transaction identified as a "listed transaction" for purposes of Treasury Regulations Sections 1.6011-4(b)(2) or 301.6111-2(b)(2).

(j) Neither Parent nor its Subsidiary is aware of any facts or circumstances or has taken or agreed to take any action, in each case, that would reasonably be expected to prevent or impede the Intended Tax Treatment.

4.17 Employee and Labor Matters; Benefit Plans.

(a) To the extent permitted by applicable Law, Parent has provided a list to the Company that is true and complete as of the Capitalization Date with respect to all individuals who serve as employees of Parent or its Subsidiary setting forth each such employee's (i) title and position, (ii) primary work location, (iii) salaried or hourly status, (iv) annual base salary or wage rate, (v) individual target bonus or commission opportunity, (vi) date of hire or years of service, and (vii) employer. Section 4.17(a) of the Parent Disclosure Schedule separately sets forth, for each Parent Associate who is an individual independent contractor engaged by Parent or its Subsidiary, such contractor's name, duties and rate of compensation.

(b) The employment of Parent's employees is terminable by Parent at will. Parent has made available to the Company accurate and complete copies of all employee manuals and handbooks, disclosure materials, policy statements and other materials relating to the employment of Parent Associates to the extent currently effective and material.

(c) Parent is not a party to, bound by the terms of, and does not have a duty to bargain under, any collective bargaining agreement or other Contract with a labor organization representing any of its employees, and there are no labor unions, labor organizations or similar employee groups representing or, to the Knowledge of Parent, purporting to represent or seeking to represent any employees of Parent or its Subsidiary.

(d) Section 4.17(d) of the Parent Disclosure Schedule lists all Parent Employee Plans (other than employment arrangements which are terminable "at will" without any contractual obligation on the part of Parent or its Subsidiary to make any severance, termination, change in control or similar payment).

(e) Each Parent Employee Plan that is intended to be qualified under Section 401(a) of the Code has received a favorable determination or opinion letter with respect to such qualified status from the IRS. To the Knowledge of Parent, nothing has occurred that would reasonably be expected to adversely affect the qualified status of any such Parent Employee Plan or the exempt status of any related trust.

(f) Each Parent Employee Plan has been established, maintained and operated in compliance, in all material respects, with its terms and with all applicable Laws, including, without limitation, the Code, ERISA and the Affordable Care Act. Parent and its Subsidiary have performed all material obligations required to be performed by them and are not in any material respect in default under or in violation under any Parent Employee Plan, nor to Knowledge of Parent, is any other party to any Parent Employee Plan in such default or violation. No Legal Proceeding (other than those relating to routine claims for benefits) is pending or, to the Knowledge of Parent, threatened with respect to any Parent Employee Plan and no Parent Employee Plan is under audit or the subject of an audit or other investigation by a Governmental Authority. All payments and/or contributions required to have been made with respect to all Parent Employee Plans either have been made or have been accrued in accordance with the terms of the applicable Parent Employee Plan and applicable Law.

(g) Neither Parent, its Subsidiary, nor any of their ERISA Affiliates maintains, sponsors, participates in, contributes to or is required to contribute to, or has any material Liability, including on account of an event occurring in the past six (6) years, with respect to (i) any "employee benefit plan" that is or was subject to Title IV or Section 302 of ERISA or Section 412 of the Code, (ii) any other defined benefit pension plan, whether or not subject to ERISA (iii) a Multiemployer Plan, (iv) any funded welfare benefit plan within the meaning of Section 419 of the Code, (v) any Multiple Employer Plan, or (vi) any Multiple Employer Welfare Arrangement. Neither Parent, its Subsidiary nor any of their ERISA Affiliates is subject to, or has ever incurred any liability under, Title IV of ERISA.

(h) No Parent Employee Plan promises or provides for medical or other welfare benefits to any service provider beyond termination of service or retirement, other than (i) pursuant to COBRA or an analogous state Law requirement or (ii) continuation coverage through the end of the month in which such termination or

retirement occurs. Parent does not sponsor or maintain any self-funded medical or long-term disability benefit plan.

(i) Neither Parent nor its Subsidiary, or, to the Knowledge of the Parent or its Subsidiary, any of their respective directors, officers, employees or agents has, with respect to any Parent Employee Plan, engaged in or been a party to any non-exempt "prohibited transactions" (as defined in Section 4975 of the Code or Section 406 of ERISA) that could reasonably be expected to result in the imposition of a penalty assessed pursuant to Section 502(i) of ERISA or a Tax imposed by Section 4975 of the Code, in each case applicable to the Parent, its Subsidiary or any Parent Employee Plan.

(j) No Parent Employee Plan is subject to any Law of a foreign jurisdiction outside of the United States.

(k) Each Parent Employee Plan that constitutes in any part a "nonqualified deferred compensation plan" (as such term is defined under Section 409A(d)(1) of the Code and the guidance thereunder) (each, a "**Parent 409A Plan**") has been operated and maintained in all material respects in operational and documentary compliance with the requirements of Section 409A of the Code and the applicable guidance thereunder. No payment to be made under any Parent 409A Plan is or, when made in accordance with the terms of the Parent 409A Plan, will be subject to the penalties of Section 409A(a)(1) of the Code.

(l) Parent is in material compliance with all Employment-Related Laws and in each case, with respect to the employees of Parent: (i) has reported and paid to the appropriate Governmental Authority, or are holding for payment not yet due to such Governmental Authority, all material amounts required by law or by agreement to be withheld, paid and reported with respect to wages, salaries and other payments to employees, (ii) is not liable for any material amounts of arrears of wages, severance pay or any Taxes or any penalty for failure to comply with any of the foregoing or any applicable Laws relating to the employment of labor and (iii) is not liable for any material payment to any trust or other fund governed by or maintained by or on behalf of any Governmental Authority, with respect to unemployment compensation benefits, social security or other benefits or obligations for employees (other than routine payments to be made in the Ordinary Course of Business). Parent and its Subsidiary have paid in full to all their respective employees or adequately accrued in accordance with GAAP for all wages, salaries, commissions, bonuses, benefits and other compensation due to or on behalf of such employees. There are no material Legal Proceedings, claims, labor disputes or organizing activities, or grievances pending or, to the Knowledge of Parent, threatened or reasonably anticipated against or involving Parent or any trustee of Parent relating to any employee, contingent worker, director, employment agreement or Parent Employee Plan (other than routine claims for benefits) or Employment-Related Laws. To the Knowledge of Parent, there are no material pending or threatened or reasonably anticipated claims or actions against Parent, any Parent trustee or any trustee of any Subsidiary under any workers' compensation policy or long-term disability policy. Neither Parent nor the Subsidiary is a party to, or otherwise bound by, a conciliation agreement, consent decree, citation or other agreement or Order with any federal, state or local agency or Governmental Authority with respect to employees employment practices.

(m) Parent has no material liability with respect to any misclassification within the past four (4) years of: (i) any Person as an independent contractor rather than as an employee, (ii) any employee leased from another employer or (iii) any employee currently or formerly classified as exempt from overtime wages. Parent has not taken any action which would constitute a "plant closing" or "mass layoff" within the meaning of the WARN Act or any similar Law, issued any notification of a plant closing or mass layoff required by the WARN Act or any similar Law (nor has Parent been under any requirement or obligation to issue any such notification), or incurred any liability or obligation under the WARN Act or any similar Law that remains unsatisfied.

(n) There has never been, nor has there been any threat of, any strike, slowdown, work stoppage, lockout, job action, union, organizing activity, question concerning representation or any similar activity or

dispute, affecting Parent. No event has occurred within the past six (6) months, and no condition or circumstance exists, that might directly or indirectly be likely to give rise to or provide a basis for the commencement of any such strike, slowdown, work stoppage, lockout, job action, union organizing activity, question concerning representation or any similar activity or dispute.

(o) Parent is not, nor has Parent been, engaged in any material unfair labor practice within the meaning of the National Labor Relations Act. There is no material Legal Proceeding, claim, labor dispute or grievance pending or, to the Knowledge of Parent, threatened or reasonably anticipated relating to any employment contract, privacy right, labor dispute, wages and hours, leave of absence, plant closing notification, workers' compensation policy, long-term disability policy, harassment, retaliation, immigration, employment statute or regulation, safety or discrimination matter involving any current or former employee of Parent, including charges of unfair labor practices or discrimination complaints. Neither Parent nor its Subsidiary nor any of their executive officers has received within the past three years any notice of intent by any Governmental Authority responsible for the enforcement of labor or employment Laws to conduct an investigation relating to Parent or its Subsidiary and, to the Knowledge of Parent, no such investigation is in progress.

(p) Since January 1, 2020: (i) no allegations of workplace sexual harassment, discrimination or other misconduct have been made, initiated, filed or, to the Knowledge of the Parent, threatened against Parent or its Subsidiary or any of their respective employees in their capacities as such, (ii) to the Knowledge of Parent, no incidents of any such workplace sexual harassment, discrimination or other misconduct have occurred, and (iii) neither Parent nor its Subsidiary have entered into any settlement agreement related to allegations of sexual harassment, discrimination or other misconduct by any of their employees directors, officers or employees described in clause (i) hereof or any independent contractor.

(q) There is no contract, agreement, plan or arrangement to which Parent or its Subsidiary is a party or by which it is bound to compensate any of its employees or other service providers for any income or excise taxes paid pursuant to the Code, including, but not limited to, Section 4999 or Section 409A of the Code.

(r) There is no Parent Employee Plan nor any Contract that Parent or its Subsidiary is a party to that, as a result of the execution and delivery of this Agreement, the stockholder approval of this Agreement, or the consummation of the transactions contemplated hereby, could (either alone or in conjunction with any other event) (i) result in the payment of any "parachute payment" within the meaning of Section 280G of the Code or (ii) result in, or cause the accelerated vesting, payment, funding or delivery of, or increase the amount or value of, any payment or benefit to any employee, officer, director or other service provider of Parent or its Subsidiary.

4.18 Environmental Matters. Since March 31, 2023, Parent and its Subsidiary has complied with all applicable Environmental Laws, which compliance includes the possession by Parent of all permits and other Governmental Authorizations required under applicable Environmental Laws and compliance with the terms and conditions thereof, except for any failure to be in compliance that, individually or in the aggregate, would not result in a Parent Material Adverse Effect. Neither Parent nor its Subsidiary since March 31, 2023, has received any written notice or other communication (in writing or otherwise), whether from a Governmental Authority, citizens group, employee or otherwise, that alleges that Parent or its Subsidiary is not in compliance with any Environmental Law, and, to the Knowledge of Parent, there are no circumstances that may prevent or interfere with Parent's or its Subsidiary's compliance with any Environmental Law in the future, except where such failure to comply would not reasonably be expected to have a Parent Material Adverse Effect. To the Knowledge of Parent: (a) no current or prior owner of any property leased or controlled by Parent or its Subsidiary since March 31, 2023, has received any written notice or other communication relating to property owned or leased at any time by Parent or its Subsidiary, whether from a Governmental Authority, citizens group, employee or otherwise, that alleges that such current or prior owner or Parent or its Subsidiary is not in compliance with or violated any Environmental Law relating to such property and (b) neither Parent nor its Subsidiary has any material liability under any Environmental Law.

4.19 Insurance. Parent has made available to the Company accurate and complete copies of all material insurance policies and all material self-insurance programs and arrangements relating to the business, assets, liabilities and operations of Parent and its Subsidiary (including Merger Sub). Each of such insurance policies is in full force and effect and Parent and its Subsidiary (including Merger Sub) are in compliance in all material respects with the terms thereof. Other than customary end of policy notifications from insurance carriers, since March 31, 2023, neither Parent nor its Subsidiary has received any notice or other communication regarding any actual or possible: (a) cancellation or invalidation of any insurance policy or (b) refusal or denial of any coverage, reservation of rights or rejection of any material claim under any insurance policy. Each of Parent and its Subsidiary (including Merger Sub) has provided timely written notice to the appropriate insurance carrier(s) of each Legal Proceeding pending against Parent or such Subsidiary for which Parent or such Subsidiary has insurance coverage, and no such carrier has issued a denial of coverage or a reservation of rights with respect to any such Legal Proceeding, or informed Parent or its Subsidiary of its intent to do so.

4.20 Transactions with Affiliates. Except as set forth in the Parent SEC Documents filed prior to the date of this Agreement, since the date of Parent's last proxy statement filed in 2023 with the SEC, no event has occurred that would be required to be reported by Parent pursuant to Item 404 of Regulation S-K promulgated by the SEC.

4.21 No Financial Advisors. Except as set forth on Section 4.21 of the Parent Disclosure Schedule, no broker, finder or investment banker is entitled to any brokerage fee, finder's fee, opinion fee, success fee, transaction fee or other fee or commission in connection with the Contemplated Transactions based upon arrangements made by or on behalf of Parent.

4.22 Valid Issuance. The Parent Common Stock to be issued in the Merger will, when issued in accordance with the provisions of this Agreement, be validly issued, fully paid and nonassessable.

4.23 Privacy and Data Security. Parent and its Subsidiary have complied with all applicable Privacy Laws and the applicable terms of any Parent Contracts relating to privacy, security, collection or use of Personal Information of any individuals (including clinical trial participants, patients, patient family members, caregivers or advocates, physicians and other health care professionals, clinical trial investigators, researchers and pharmacists) that interact with Parent or its Subsidiary in connection with the operation of Parent's and its Subsidiary's business, except for such noncompliance as has not had, and would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect. To the Knowledge of Parent, Parent has implemented and maintains reasonable Privacy Policies and has complied with its Privacy Policies, except for such noncompliance as has not to the Knowledge of the Parent had, and would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect. To the Knowledge of Parent, as of the date hereof, no claims have been asserted or threatened against Parent by any Person alleging a violation of Privacy Laws, Privacy Policies and/or the applicable terms of any Parent Contracts relating to privacy, security, collection or use of Personal Information of any individuals. To the Knowledge of Parent, there have been no data security incidents, personal data breaches or other adverse events or incidents related to Personal Information or Parent data in the custody or control of Parent or any service provider acting on behalf of Parent, in each case where such incident, breach or event would result in a notification obligation to any Person under applicable law or pursuant to the terms of any Parent Contract.

4.24 No Other Representations or Warranties. Parent hereby acknowledges and agrees that, except for the representations and warranties contained in this Agreement, neither the Company, nor any other person on behalf of the Company makes any express or implied representation or warranty with respect to the Company or with respect to any other information provided to Parent, Merger Sub or stockholders or any of their respective Affiliates in connection with the Contemplated Transactions, and (subject to the express representations and warranties of the Company set forth in Section 3 (in each case as qualified and limited by the Company Disclosure Schedule)) none of Parent, Merger Sub nor any of their respective Representatives or stockholders, has relied on any such information (including the accuracy or completeness thereof).

Section 5. Certain Covenants of the Parties.

5.1 Operation of Parent's Business.

(a) Except (i) as expressly contemplated or permitted by this Agreement, including in connection with the Nasdaq Reverse Split, (ii) as set forth on Section 5.1(a) of the Parent Disclosure Schedule, (iii) as required by applicable Law, or (iv) unless the Company shall otherwise consent in writing (which consent shall not be unreasonably withheld, delayed or conditioned), during the period commencing on the date of this Agreement and continuing until the earlier to occur of the termination of this Agreement pursuant to Section 10 and the Effective Time (the "**Pre-Closing Period**"), Parent shall, and shall cause its Subsidiary to, use commercially reasonable efforts to conduct its business and operations in the Ordinary Course of Business and in material compliance with all applicable Law and the requirements of all Contracts that constitute Parent Material Contracts.

(b) Except (w) as expressly contemplated or permitted by this Agreement, including in connection with the Nasdaq Reverse Split, (x) as set forth in Section 5.1(b) of the Parent Disclosure Schedule, (y) as required by applicable Law or (z) with the prior written consent of the Company (which consent shall not be unreasonably withheld, delayed or conditioned), at all times during the Pre-Closing Period, Parent shall not, nor shall it cause or permit its Subsidiary to, do any of the following:

(i) declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of its capital stock or repurchase, redeem or otherwise reacquire any shares of its capital stock or other securities or equity interests of Parent or its Subsidiary (except for (A) such reacquisitions of shares of Parent Common Stock from terminated employees, directors or consultants of Parent and (B) any distribution of the Closing Distribution to Parent stockholders or holders of Parent Warrants);

(ii) sell, issue, grant, pledge or otherwise dispose of or encumber or authorize the issuance of: (A) any capital stock or other security or equity interest (except for Parent Common Stock issued upon the valid exercise or settlement of outstanding Parent Options, Parent Restricted Stock Units or Parent Warrants, or pursuant to the Parent ESPP, as applicable, including any shares of Parent Common Stock sold in connection with any such exercise or settlement for purposes of satisfying related Tax obligations), (B) any option, warrant or right to acquire any capital stock or any other security or (C) any instrument convertible into or exchangeable for any capital stock or other security;

(iii) except as required to give effect to anything in contemplation of the Closing or to the Approved Reverse Split, amend any of its Organizational Documents, or effect or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except, for the avoidance of doubt, the Contemplated Transactions;

(iv) form any Subsidiary or acquire any equity interest or other interest in any other Entity or enter into a joint venture with any other Entity;

(v) (A) lend money to any Person, (B) incur or guarantee any indebtedness for borrowed money, (C) guarantee any debt securities of others or (D) make any capital expenditure or commitment, other than payments for the repair or replacement of capital equipment not in excess of $100,000 in the aggregate;

(vi) other than as required to comply with an existing Parent Employee Plan or in connection with any actions that would not result in any obligations to make payments post-Closing that are not accounted for in the definition of Parent Net Cash: (A) adopt, establish or enter into any Parent Employee Plan, including, for the avoidance of doubt, any equity awards plans, (B) cause or permit any Parent Employee Plan to be amended or terminated other than as required by law or in

order to make amendments for the purposes of compliance with Section 409A of the Code, (C) increase the benefits under any Parent Employee Plan, (D) grant or announce any incentive awards, severance or termination pay, change in control, sale, transaction or similar bonuses, or other incentive compensation other than payment of annual incentive bonuses pursuant to an existing Parent Employee Plan, (E) pay any bonus or make any profit-sharing or similar payment to (except with respect to obligations in place on the date of this Agreement pursuant to any Parent Employee Plan disclosed to the Company), or increase the amount of the wages, salary, commissions, fringe benefits or other compensation or remuneration payable to, any of its directors, officers, employees or consultants, (F) increase the severance or change of control benefits offered to any current or new employees, directors or consultants, or (G) hire any officer or employee;

(vii) other than in connection with any actions that would not result in any obligations to make payments post-Closing that are not accounted for in the definition of Parent Net Cash, enter into any material transaction outside the Ordinary Course of Business or, in any event, that would incur material expenditures in excess of $100,000 in the aggregate;

(viii) acquire any material asset or sell, lease, license or otherwise irrevocably dispose of any of its assets or properties, or grant any Encumbrance with respect to such assets or properties;

(ix) sell, assign, transfer, license, sublicense or otherwise dispose of any material Parent IP Rights (other than pursuant to non-exclusive licenses in the Ordinary Course of Business);

(x) other than in the Ordinary Course of Business: (A) make, change or revoke any material Tax election; (B) file any amended income or other material Tax Return; (C) adopt or change any material accounting method in respect of Taxes unless such change is required by GAAP; (D) enter into any material Tax closing agreement, settle any material Tax claim or assessment; (E) consent to any extension or waiver of the limitation period applicable to or relating to any material Tax claim or assessment; or (F) surrender any material claim for refund;

(xi) waive, settle or compromise any pending or threatened Legal Proceeding against Parent or its Subsidiary, other than waivers, settlements or agreements (A) for an amount not in excess of $100,000 in the aggregate (excluding amounts to be paid under existing insurance policies or renewals thereof) and (B) that do not impose any material restrictions on the operations or businesses of Parent or its Subsidiary, taken as a whole, or any equitable relief on or the admission of wrongdoing by Parent or its Subsidiary;

(xii) delay or fail to repay when due any material obligation, including accounts payable and accrued expenses (provided, however, that any such accounts payable or accrued expenses need not be paid if the validity or amount thereof shall at the time be contested in good faith);

(xiii) forgive any loans to any Person, including its employees, officers, directors or Affiliates;

(xiv) terminate or modify in any material respect, or fail to exercise renewal rights with respect to, any material insurance policy;

(xv) (A) materially change pricing or royalties or other payments set or charged by Parent or its Subsidiary to its customers or licensees or (B) agree to materially change pricing or royalties or other payments set or charged by Persons who have licensed Intellectual Property to Parent or its Subsidiary;

(xvi) enter into, amend or terminate any Parent Material Contract;

(xvii) enter into or amend a Contract that would reasonably be expected to prevent or materially impede, interfere with, hinder or delay the consummation of the Contemplated Transactions; or

(xviii) agree, resolve or commit to do any of the foregoing.

Nothing contained in this Agreement shall give the Company, directly or indirectly, the right to control or direct the operations of Parent prior to the Effective Time. Prior to the Effective Time, Parent shall exercise, consistent with the terms and conditions of this Agreement, complete unilateral control and supervision over its business operations.

(c) Notwithstanding any provision herein to the contrary (including the foregoing provisions of this Section 5.1), Parent may engage in the sale, license, transfer, disposition, divestiture or other monetization transaction (i.e., a royalty transaction) or winding down of any Parent Legacy Business (each, a "**Parent Legacy Transaction**"); provided, however, that to the extent any Parent Legacy Transaction results in obligations of Parent that will extend beyond Closing, such terms shall be subject to the Company's written consent not to be unreasonably withheld, conditioned or delayed.

5.2 Operation of the Company's Business.

(a) Except (i) as expressly contemplated or permitted by this Agreement, including the Subscription Agreement, (ii) as set forth in Section 5.2(a) of the Company Disclosure Schedule, (iii) as required by applicable Law, or (iv) unless Parent shall otherwise consent in writing (which consent shall not be unreasonably withheld, delayed or conditioned), during the Pre-Closing Period the Company shall use commercially reasonable efforts to conduct its business and operations in the Ordinary Course of Business and in material compliance with all applicable Laws and the requirements of all Contracts that constitute Company Material Contracts.

(b) Except (w) as expressly contemplated or permitted by this Agreement, including the Subscription Agreement, (x) as set forth in Section 5.2(b) of the Company Disclosure Schedule, (y) as required by applicable Law, or (z) with the prior written consent of Parent (which consent shall not be unreasonably withheld, delayed or conditioned), at all times during the Pre-Closing Period, the Company shall not do any of the following:

(i) declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of capital stock, or repurchase, redeem or otherwise reacquire any shares of Company Capital Stock or other securities (except for shares of Company Common Stock from terminated employees, directors or consultants of the Company);

(ii) except as required to give effect to anything in contemplation of the Closing, or effect or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except, for the avoidance of doubt, the Contemplated Transactions;

(iii) sell, issue, grant, pledge or otherwise dispose of or encumber or authorize any of the foregoing actions with respect to: (A) any capital stock or other security or equity interests of the Company (except for shares of outstanding Company Common Stock issued upon the valid exercise or settlement of Company Options or Company Restricted Stock Units, as applicable), (B) any option, warrant or right to acquire any capital stock or any other security or (C) any instrument convertible into or exchangeable for any capital stock or other security of the Company, other than, with respect to clause (B), the grant of options and/or Company Restricted Stock Units in the Ordinary Course of Business;

(iv) form any Subsidiary, acquire any equity interest or other interest in any other Entity or enter into a joint venture with any other Entity, other than in the Ordinary Course of Business;

(v) (A) lend money to any Person, (B) incur or guarantee any indebtedness for borrowed money, (C) guarantee any debt securities of others or (D) make any capital expenditure or commitment unless such capital expenditure or commitment is included in Section 5.2(b)(v) of the Company Disclosure Schedule;

(vi) other than in the Ordinary Course of Business, as required to comply with an existing Company Employee Plan: (A) adopt, establish or enter into any Company Employee Plan, including, for the avoidance of doubt, any equity awards plans, (B) cause or permit any Company Employee Plan to be amended or terminated other than as required by law or in order to make amendments for the purposes of compliance with Section 409A of the Code, or (C) pay any bonus or make any profit-sharing or similar payment to (except with respect to obligations in place on the date of this Agreement pursuant to any Company Employee Plan disclosed to Parent), or increase the amount of the wages, salary, commissions, fringe benefits or other compensation or remuneration payable to, any of its directors, officers or employees;

(vii) enter into any material transaction outside the Ordinary Course of Business;

(viii) acquire any material asset or sell, lease, license or otherwise irrevocably dispose of any of its assets or properties, or grant any Encumbrance with respect to such assets or properties, except in the Ordinary Course of Business;

(ix) sell, assign, transfer, license, sublicense or otherwise dispose of any material Company IP Rights (other than those pursuant to non-exclusive licenses in the Ordinary Course of Business);

(x) other than in the Ordinary Course of Business: (A) make, change or revoke any material Tax election; (B) file any amended income or other material Tax Return; (C) adopt or change any material accounting method in respect of Taxes except such changes as required by GAAP; (D) enter into any material Tax closing agreement, settle any material Tax claim or assessment; (E) consent to any extension or waiver of the limitation period applicable to or relating to any material Tax claim or assessment; or (F) surrender any material claim for refund;

(xi) waive, settle or compromise any pending or threatened Legal Proceeding against the Company, other than waivers, settlements or agreements (A) for an amount not in excess of $100,000 in the aggregate (excluding amounts to be paid under existing insurance policies or renewals thereof) and (B) that do not impose any material restrictions on the operations or businesses of the Company or any equitable relief on, or the admission of wrongdoing by the Company;

(xii) delay or fail to repay when due any material obligation, including accounts payable and accrued expenses (provided, however, that any such accounts payable or accrued expenses need not be paid if the validity or amount thereof shall at the time be contested in good faith);

(xiii) forgive any loans to any Person, including its employees, officers, directors or Affiliate;

(xiv) terminate or modify in any material respect, or fail to exercise renewal rights with respect to, any material insurance policy;

(xv) enter into, amend or terminate any Company Material Contract, other than in the Ordinary Course of Business;

(xvi) (A) materially change pricing or royalties or other payments set or charged by the Company to its customers or licensees or (B) agree to materially change pricing or royalties or other payments set or charged by Persons who have licensed Intellectual Property to the Company;

(xvii) enter into or amend a Contract that would reasonably be expected to prevent or materially impede, interfere with, hinder or delay the consummation of the Contemplated Transactions; or

(xviii) agree, resolve or commit to do any of the foregoing.

Nothing contained in this Agreement shall give Parent, directly or indirectly, the right to control or direct the operations of the Company prior to the Effective Time. Prior to the Effective Time, the Company shall exercise,

consistent with the terms and conditions of this Agreement, complete unilateral control and supervision over its business operations.

5.3 Access and Investigation.

(a) Subject to the terms of the Confidentiality Agreement, which the Parties agree will continue in full force following the date of this Agreement, during the Pre-Closing Period, upon reasonable notice, Parent, on the one hand, and the Company, on the other hand, shall, and shall use commercially reasonable efforts to cause such Party's Representatives to: (i) provide the other Party and such other Party's Representatives with reasonable access during normal business hours to such Party's Representatives, personnel, property and assets, and to all existing books, records, Tax Returns, work papers and other documents and information relating to such Party and its Subsidiaries, (ii) provide the other Party and such other Party's Representatives with such copies of the existing books, records, Tax Returns, work papers, product data, and other documents and information relating to such Party and its Subsidiaries, and with such additional financial, operating and other data and information regarding such Party and its Subsidiaries as the other Party may reasonably request, (iii) permit the other Party's officers and other employees to meet, upon reasonable notice and during normal business hours, with the chief financial officer and other officers and managers of such Party responsible for such Party's financial statements and the internal controls of such Party to discuss such matters as the other Party may deem necessary, including to support the timely preparation and filing of Parent's financial statements, and (iv) make available to the other Party copies of any material notice, report or other document filed with or sent to or received from any Governmental Authority in connection with the Contemplated Transactions. Any investigation conducted by either Parent or the Company pursuant to this Section 5.3 shall be conducted in such manner as not to interfere unreasonably with the conduct of the business of the other Party.

(b) Notwithstanding anything herein to the contrary in this Section 5.3, no access or examination contemplated by this Section 5.3 shall be permitted to the extent that it would require any Party or its Subsidiaries to waive the attorney-client privilege or attorney work product privilege, or violate any applicable Law; provided, that such Party or its Subsidiary (i) shall be entitled to withhold only such information that may not be provided without causing such violation or waiver, (ii) shall provide to the other Party all related information that may be provided without causing such violation or waiver (including, to the extent permitted, redacted versions of any such information) and (iii) shall enter into such effective and appropriate joint-defense agreements or other protective arrangements as may be reasonably requested by the other Party in order that all such information may be provided to the other Party without causing such violation or waiver.

5.4 No Solicitation.

(a) Each of Parent and the Company agrees that, during the Pre-Closing Period, neither it nor any of its Subsidiaries shall, nor shall it or any of its Subsidiaries authorize any of its Representatives to, directly or indirectly: (i) solicit, initiate or knowingly encourage, induce or facilitate the communication, making, submission or announcement of any Acquisition Proposal or Acquisition Inquiry or take any action that could reasonably be expected to lead to an Acquisition Proposal or Acquisition Inquiry, (ii) furnish any non-public information regarding such Party to any Person in connection with or in response to an Acquisition Proposal or Acquisition Inquiry, (iii) engage in discussions or negotiations with any Person with respect to any Acquisition Proposal or Acquisition Inquiry, (iv) approve, endorse or recommend any Acquisition Proposal (subject to Section 6.2 and Section 6.3), (v) execute or enter into any letter of intent or any Contract contemplating or otherwise relating to any Acquisition Transaction, (vi) take any action that would reasonably be expected to lead to an Acquisition Proposal or Acquisition Inquiry or (vii) publicly propose to do any of the following; provided, however, that, notwithstanding anything contained in this Section 5.4 and subject to compliance with this Section 5.4, prior to the approval of this Agreement by a Party's stockholders (i.e., the Required Company Stockholder Vote, in the case of the Company, or the Parent Stockholder Vote in the case of Parent), such Party may furnish non-public information regarding such Party and its Subsidiaries to, and enter into discussions or negotiations with, any Person in response to a bona fide, written Acquisition Proposal by such Person which such

Party's board of directors determines in good faith, after consultation with such Party's financial advisors and outside legal counsel, constitutes, or is reasonably likely to result in, a Superior Offer (and is not withdrawn) if: (A) neither such Party nor any Representative of such Party shall have breached this Section 5.4 in any material respect, (B) the board of directors of such Party concludes in good faith based on the advice of outside legal counsel, that the failure to take such action would reasonably be expected to be inconsistent with the board of directors' fiduciary duties under applicable Law, (C) at least two (2) Business Days prior to initially furnishing any such nonpublic information to, or entering into discussions with, such Person, such Party gives the other Party written notice of the identity of such Person and of such Party's intention to furnish nonpublic information to, or enter into discussions with, such Person, (D) such Party receives from such Person an executed Acceptable Confidentiality Agreement and (E) at least two (2) Business Days prior to furnishing any such nonpublic information to such Person, such Party furnishes such nonpublic information to the other Party (to the extent such information has not been previously furnished by such Party to the other Party). Without limiting the generality of the foregoing, each Party acknowledges and agrees that, in the event any Representative of such Party takes any action that, if taken by such Party, would constitute a breach of this Section 5.4 by such Party, the taking of such action by such Representative shall be deemed to constitute a breach of this Section 5.4 by such Party for purposes of this Agreement.

(b) If any Party or any Representative of such Party receives an Acquisition Proposal or Acquisition Inquiry at any time during the Pre-Closing Period, then such Party shall promptly (and in no event later than one (1) Business Day after such Party becomes aware of such Acquisition Proposal or Acquisition Inquiry) advise the other Party orally and in writing of such Acquisition Proposal or Acquisition Inquiry (including the identity of the Person making or submitting such Acquisition Proposal or Acquisition Inquiry, and the terms thereof). Such Party shall keep the other Party reasonably informed with respect to the status and terms of any such Acquisition Proposal or Acquisition Inquiry and any material modification or material proposed modification thereto.

(c) Each Party shall immediately cease and cause to be terminated any existing discussions, negotiations and communications with any Person that relate to any Acquisition Proposal or Acquisition Inquiry as of the date of this Agreement and request the destruction or return of any nonpublic information provided to such Person.

5.5 Notification of Certain Matters. During the Pre-Closing Period, each of the Company, on the one hand, and Parent, on the other hand, shall promptly notify the other (and, if in writing, furnish copies of) if any of the following occurs: (a) any notice or other communication is received from any Person alleging that the Consent of such Person is or may be required in connection with any of the Contemplated Transactions, (b) any Legal Proceeding against or involving or otherwise affecting such Party or its Subsidiaries is commenced, or, to the Knowledge of such Party, threatened against such Party or, to the Knowledge of such Party, any director, officer or key employee of such Party, (c) such Party becomes aware of any inaccuracy in any representation or warranty made by such Party in this Agreement or (d) the failure of such Party to comply with any covenant or obligation of such Party; in each case that could reasonably be expected to make the timely satisfaction of any of the conditions set forth in Section 7, Section 8 or Section 9, as applicable, impossible or materially less likely. No such notice shall be deemed to supplement or amend the Company Disclosure Schedule or the Parent Disclosure Schedule for the purpose of (x) determining the accuracy of any of the representations and warranties made by the Company in this Agreement or (y) determining whether any condition set forth in Section 7, Section 8 or Section 9 has been satisfied. Any failure by either Party to provide notice pursuant to this Section 5.5 shall not be deemed to be a breach for purposes of Section 8.2 or Section 9.2, as applicable, unless such failure to provide such notice was knowing and intentional.

Section 6. Additional Agreements of the Parties.

6.1 Registration Statement, Proxy Statement.

(a) As promptly as practicable after the date of this Agreement, (i) Parent shall prepare and file with the SEC a proxy statement relating to the Parent Stockholder Meeting to be held in connection with the

Merger (together with any amendments thereof or supplements thereto, the "**Proxy Statement**") and (ii) Parent, in cooperation with the Company, shall prepare and file with the SEC a registration statement on Form S-4 (the "**Form S-4**"), in which the Proxy Statement shall be included as a part (the Proxy Statement and the Form S-4, collectively, the "**Registration Statement**"), in connection with the registration under the Securities Act of the shares of Parent Common Stock to be issued by virtue of the Contemplated Transactions, including, without limitation, (i) shares of Parent Common Stock issued upon the conversion of Company Capital Stock (including (A) any Company Common Stock and Company Pre-Funded Warrants issued pursuant to the Company Pre-Closing Financing and (B) any Company Capital Stock otherwise outstanding immediately prior to the Effective Time) and (ii) shares of Parent Common Stock underlying any Parent Pre-Funded Warrants issued pursuant to this Agreement. Parent shall use commercially reasonable efforts to (x) cause the Registration Statement to comply with applicable rules and regulations promulgated by the SEC, (y) cause the Registration Statement to become effective as promptly as practicable, and (z) respond promptly to any comments or requests of the SEC or its staff related to the Registration Statement. Parent shall take all or any action required under any applicable federal, state, securities and other Laws in connection with the issuance of shares of Parent Common Stock and Parent Pre-Funded Warrants pursuant to the Contemplated Transactions. Each of the Parties shall reasonably cooperate with the other Party and furnish all information concerning itself and their Affiliates, as applicable, to the other Parties that is required by law to be included in the Registration Statement as the other Parties may reasonably request in connection with such actions and the preparation of the Registration Statement and Proxy Statement.

(b) Parent covenants and agrees that the Registration Statement (and the letter to stockholders, notice of meeting and form of proxy included therewith) will (i) comply as to form in all material respects with the requirements of applicable U.S. federal securities laws and the DGCL, and (ii) will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. The Company covenants and agrees that the information supplied by or on behalf of the Company to Parent for inclusion in the Registration Statement (including the Company Balance Sheet) will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make such information, in light of the circumstances under which they were made, not misleading. Notwithstanding the foregoing, neither Party makes any covenant, representation or warranty with respect to statements made in the Registration Statement (and the letter to stockholders, notice of meeting and form of proxy included therewith), if any, based on information provided by the other Party or any of its Representatives regarding such other Party or its Affiliates for inclusion therein.

(c) Parent shall use commercially reasonable efforts to cause the Proxy Statement to be mailed to Parent's stockholders as promptly as practicable after the Registration Statement is declared effective under the Securities Act. If at any time before the Effective Time, (i) Parent, Merger Sub or the Company (A) become aware of any event or information that, pursuant to the Securities Act or the Exchange Act, should be disclosed in an amendment or supplement to the Registration Statement or Proxy Statement, (B) receives notice of any SEC request for an amendment or supplement to the Registration Statement or for additional information related thereto, or (C) receives SEC comments on the Registration Statement, or (ii) the information provided in the Registration Statement has become "stale" and new information should be disclosed in an amendment or supplement to the Registration Statement, as the case may be, then such Party, as the case may be, shall promptly inform the other Parties thereof and shall cooperate with such other Parties in Parent filing such amendment or supplement with the SEC (and, if appropriate, in mailing such amendment or supplement to the Parent stockholders) or otherwise addressing such SEC request or comments and each Party and shall use their commercially reasonable efforts to cause any such amendment to become effective, if required. Parent shall promptly notify the Company if it becomes aware (1) that the Registration Statement has become effective, (2) of the issuance of any stop order or suspension of the qualification or registration of the Parent Common Stock issuable in connection with the Contemplated Transactions for offering or sale in any jurisdiction, or (3) any order of the SEC related to the Registration Statement, and shall promptly provide to the Company copies of all written correspondence between it or any of its Representatives, on the one hand, and the SEC or staff of the

SEC, on the other hand, with respect to the Registration Statement and all orders of the SEC relating to the Registration Statement.

(d) The Company shall reasonably cooperate with Parent and provide, and cause its Representatives to provide, Parent and its Representatives, with all true, correct and complete information regarding the Company that is required by Law to be included in the Registration Statement or reasonably requested by Parent to be included in the Registration Statement (collectively, the "**Company Required S-4 Information**"). Without limiting the foregoing, the Company will use commercially reasonable efforts to cause to be delivered to Parent a consent letter of the Company's independent accounting firm, dated no more than two (2) Business Days before the date on which the Registration Statement is filed with the SEC (and reasonably satisfactory in form and substance to Parent), that is customary in scope and substance for consent letters delivered by independent public accountants in connection with registration statements similar to the Registration Statement. The Company and its legal counsel shall be given reasonable opportunity to review and comment on the Registration Statement, including all amendments and supplements thereto, prior to the filing thereof with the SEC, and on the response to any comments of the SEC on the Registration Statement, prior to the filing thereof with the SEC. Parent may file the Registration Statement, or any amendment or supplement thereto, without the prior consent of the Company, provided that Parent has included the Company Required S-4 Information in the Registration Statement in substantially the same form as it was provided to Parent by the Company pursuant to this Section 6.1; provided, further, that if the prior consent of the Company is not obtained then, notwithstanding anything else herein, the Company makes no covenant or representation regarding the portion of such information supplied by or on behalf of the Company to Parent for inclusion in such Registration Statement that the Company reasonably identifies prior to such filing of the Registration Statement.

(e) As promptly as reasonably practicable following the date of this Agreement, the Company shall furnish to Parent (i) prior to July 31, 2023, audited financial statements for each of its fiscal years required to be included in the Registration Statement, together with the auditor's report thereon (the "**Company Audited Financial Statements**"), (ii) prior to July 31, 2023, unaudited interim financial statements for the interim period completed March 31, 2023 (the "**Company Q1 2023 Interim Financial Statements**"), and (iii) unaudited interim financial statements for each interim period completed prior to Closing that would be required to be included in the Registration Statement or any periodic report due prior to the Closing if the Company were subject to the periodic reporting requirements under the Securities Act or the Exchange Act (the "**Additional Company Interim Financial Statements**" and together with the Company Q1 2023 Interim Financial Statements, the "**Company Interim Financial Statements**"). Each of the Company Audited Financial Statements and the Company Interim Financial Statements will be suitable for inclusion in the Registration Statement and prepared in accordance with GAAP as applied on a consistent basis during the periods involved (except in each case as described in the notes thereto) and on that basis will present fairly, in all material respects, the financial position and the results of operations, changes in stockholders' equity and cash flows of the Company as of the dates of and for the periods referred to in the Company Audited Financial Statements or the Company Interim Financial Statements, as the case may be. The Company Audited Financial Statements and the Company Interim Financial Statements shall be prepared under U.S. GAAP in accordance with the requirements of the PCAOB for public companies. The Company Audited Financial Statements shall have been audited by a PCAOB qualified auditor that is independent under Rule 2-01 of Regulation S-X under the Securities Act and, with respect to the Company Interim Financial Statements, shall have been reviewed by the Company's auditors, as provided in AU-C-930 under the standards of the American Institute of Certified Public Accountants.

6.2 Company Stockholder Written Consent.

(a) Promptly after the Registration Statement has been declared effective under the Securities Act, and in any event no later than two (2) Business Days thereafter, the Company shall obtain the approval by written consent from Company stockholders sufficient for the Required Company Stockholder Vote in lieu of a meeting pursuant to Section 228 of the DGCL, for purposes of (i) adopting and approving this Agreement and the Contemplated Transactions, (ii) acknowledging that the approval given thereby is irrevocable and that such

stockholder is aware of its rights to demand appraisal for its shares pursuant to Section 262 of the DGCL, a copy of which will be attached thereto, and that such stockholder has received and read a copy of Section 262 of the DGCL and (iii) acknowledging that by its approval of the Merger it is not entitled to appraisal rights with respect to its shares in connection with the Merger and thereby waives any rights to receive payment of the fair value of its capital stock under the DGCL (the "**Company Stockholder Written Consents**"). Under no circumstances shall the Company assert that any other approval or consent is necessary by its stockholders to approve this Agreement and the Contemplated Transactions.

(b) Reasonably promptly following receipt of the Required Company Stockholder Vote, the Company shall prepare and mail a notice (the "**Stockholder Notice**") to every stockholder of the Company that did not execute the Company Stockholder Written Consent. The Stockholder Notice shall (i) be a statement to the effect that the Company Board determined that the Merger is advisable in accordance with Section 251(b) of the DGCL and in the best interests of the stockholders of the Company and approved and adopted this Agreement, the Merger and the other Contemplated Transactions, (ii) provide the stockholders of the Company to whom it is sent with notice of the actions taken in the Company Stockholder Written Consent, including the adoption and approval of this Agreement, the Merger and the other Contemplated Transactions in accordance with Section 228(e) of the DGCL and the certificate of incorporation and bylaws of the Company and (iii) include a description of the appraisal rights of the Company's stockholders available under the DGCL, along with such other information as is required thereunder and pursuant to applicable Law. All materials (including any amendments thereto) submitted to the stockholders of the Company in accordance with this Section 6.2(b) shall be subject to Parent's advance review and reasonable approval.

(c) The Company agrees that, subject to Section 6.2(d): (i) the Company Board shall recommend that the Company's stockholders vote to adopt and approve this Agreement and the Contemplated Transactions and shall use commercially reasonable efforts to solicit such approval within the time set forth in Section 6.2(a) (the recommendation of the Company Board that the Company's stockholders vote to adopt and approve this Agreement being referred to as the "**Company Board Recommendation**") and (ii) the Company Board Recommendation shall not be withdrawn or modified (and the Company Board shall not publicly propose to withdraw or modify the Company Board Recommendation) in a manner adverse to Parent, and no resolution by the Company Board or any committee thereof to withdraw or modify the Company Board Recommendation in a manner adverse to Parent or to adopt, approve or recommend (or publicly propose to adopt, approve or recommend) any Acquisition Proposal shall be adopted or proposed.

(d) Notwithstanding anything to the contrary contained in Section 6.2(c), and subject to compliance with Section 5.4 and Section 6.2, if at any time prior to approval and adoption of this Agreement by the Required Company Stockholder Vote, the Company receives a bona fide written Superior Offer, the Company Board may withhold, amend, withdraw or modify the Company Board Recommendation (or publicly propose to withhold, amend, withdraw or modify the Company Board Recommendation) in a manner adverse to Parent (collectively, a "**Company Board Adverse Recommendation Change**") if, but only if, following the receipt of and on account of such Superior Offer, (i) the Company Board determines in good faith, based on the advice of its outside legal counsel, that the failure to withhold, amend, withdraw or modify such recommendation would reasonably be expected to be inconsistent with its fiduciary duties under applicable Law, (ii) the Company has, during the Notice Period (as defined below), negotiated with Parent in good faith to make such adjustments to the terms and conditions of this Agreement so that such Acquisition Proposal ceases to constitute a Superior Offer and (iii) if, after Parent shall have delivered to the Company a written offer to alter the terms or conditions of this Agreement during the Notice Period, the Company Board shall have determined in good faith, based on the advice of its outside legal counsel, that the failure to withhold, amend, withdraw or modify the Company Board Recommendation would reasonably be expected to be inconsistent with its fiduciary duties under applicable Law (after taking into account such alterations of the terms and conditions of this Agreement); provided that (x) Parent receives written notice from the Company confirming that the Company Board has determined to change its recommendation at least four (4) Business Days in advance of the Company Board Adverse Recommendation Change (the "**Notice Period**"), which notice shall include a description in reasonable

detail of the reasons for such Company Board Adverse Recommendation Change, and written copies of any relevant proposed transaction agreements with any party making a potential Superior Offer, (y) during any Notice Period, Parent shall be entitled to deliver to the Company one or more counterproposals to such Acquisition Proposal and the Company will, and cause its Representatives to, negotiate with Parent in good faith (to the extent Parent desires to negotiate) to make such adjustments in the terms and conditions of this Agreement so that the applicable Acquisition Proposal ceases to constitute a Superior Offer and (z) in the event of any material amendment to any Superior Offer (including any revision in the amount, form or mix of consideration the Company's stockholders would receive as a result of such potential Superior Offer), the Company shall be required to provide Parent with notice of such material amendment and the Notice Period shall be extended, if applicable, to ensure that at least three (3) Business Days remain in the Notice Period following such notification during which the parties shall comply again with the requirements of this Section 6.2(d) and the Company Board shall not make a Company Board Adverse Recommendation Change prior to the end of such Notice Period as so extended (it being understood that there may be multiple extensions).

(e) The Company's obligation to solicit the consent of its stockholders to sign the Company Stockholder Written Consent in accordance with Section 6.2(a) shall not be limited or otherwise affected by the commencement, disclosure, announcement or submission of any Superior Offer or other Acquisition Proposal, or by any Company Board Adverse Recommendation Change.

6.3 Parent Stockholder Meeting.

(a) Parent shall take all action necessary under applicable Law to call, give notice of and hold a meeting of the holders of Parent Common Stock to consider and vote on proposals to (i) approve this Agreement and thereby to approve the Contemplated Transactions and against any competing proposals being considered at the meeting pursuant to the terms of this Agreement (the "**Parent Stockholder Merger Approval Matter**"), (ii) amend the Parent's certificate of incorporation to, if deemed appropriate by the Parties, (A) effect a Nasdaq Reverse Split and/or (B) increase the number of authorized shares of Parent Common Stock, (iii) increase the number of shares available for issuance under the existing Parent Stock Plan by an amount directed by the Company and/or approve a new Parent equity incentive plan, with the form of such Parent equity incentive plan and number of shares of Parent Common Stock available for issuance under such plan to be determined by the Company (subject in each case to the consent of Parent, which consent shall not be unreasonably withheld, conditioned or delayed), and (iv) approve a new Parent employee stock purchase plan, with the form of such Parent employee stock purchase plan and number of shares of Parent Common Stock available for issuance under such plan to be determined by the Company (subject to the consent of Parent, which consent shall not be unreasonably withheld, conditioned or delayed) (clauses (i), (ii), (iii) and (iv) collectively, the "**Parent Stockholder Matters**" and such meeting, the "**Parent Stockholder Meeting**"). The Parent Stockholder Meeting shall be held as promptly as practicable after the date that the Registration Statement is declared effective under the Securities Act, and in any event, no later than forty-five (45) days after the effective date of the Registration Statement. Parent shall take reasonable measures to ensure that all proxies solicited in connection with the Parent Stockholder Meeting are solicited in compliance with all applicable Laws. Notwithstanding anything to the contrary contained herein, if on the date of the Parent Stockholder Meeting, or a date preceding the date on which the Parent Stockholder Meeting is scheduled, Parent reasonably believes that (i) it will not receive proxies sufficient to obtain the Parent Stockholder Vote, whether or not a quorum would be present or (ii) it will not have sufficient shares of Parent Common Stock represented (whether in person or by proxy) to constitute a quorum necessary to conduct the business of the Parent Stockholder Meeting, Parent may postpone or adjourn, or make one or more successive postponements or adjournments of, the Parent Stockholder Meeting, as long as the date of the Parent Stockholder Meeting is not postponed or adjourned more than an aggregate of thirty (30) days in connection with any postponements or adjournments.

(b) Parent agrees that (i) the Parent Board shall recommend that the holders of Parent Common Stock vote to approve the Parent Stockholder Matters and shall use commercially reasonable efforts to solicit such approval within the timeframe set forth in Section 6.3(a) above and (ii) the Proxy Statement shall include a

statement to the effect that the Parent Board recommends that Parent's stockholders vote to approve the Parent Stockholder Matters (the recommendation of the Parent Board being referred to as the "**Parent Board Recommendation**").

(c) Notwithstanding anything to the contrary contained in Section 6.3(b), and subject to compliance with Section 5.4 and Section 6.3, if at any time prior to approval and adoption of this Agreement by the Parent Stockholder Vote, Parent receives a bona fide written Superior Offer, the Parent Board may withhold, amend, withdraw or modify the Parent Board Recommendation (or publicly propose to withhold, amend, withdraw or modify the Parent Board Recommendation) in a manner adverse to the Company (collectively, a "**Parent Board Adverse Recommendation Change**") if, but only if, following the receipt of and on account of such Superior Offer, (i) the Parent Board determines in good faith, based on the advice of its outside legal counsel, that the failure to withhold, amend, withdraw or modify such recommendation would reasonably be expected to be inconsistent with its fiduciary duties under applicable Law, (ii) Parent has negotiated, and has caused its financial advisors and outside legal counsel to, during the Parent Notice Period (as defined below), negotiate with the Company in good faith to make such adjustments to the terms and conditions of this Agreement so that such Acquisition Proposal ceases to constitute a Superior Offer, and (iii) if after the Company shall have delivered to the Company a written offer to alter the terms or conditions of this Agreement during the Parent Notice Period, the Parent Board shall have determined in good faith, based on the advice of its outside legal counsel, that the failure to withhold, amend, withdraw or modify the Parent Board Recommendation would reasonably be expected to be inconsistent with its fiduciary duties under applicable Law (after taking into account such alterations of the terms and conditions of this Agreement); provided that (x) the Company receives written notice from Parent confirming that the Parent Board has determined to change its recommendation at least four (4) Business Days in advance of the Parent Board Adverse Recommendation Change (the "**Parent Notice Period**"), which notice shall include a description in reasonable detail of the reasons for such Parent Board Adverse Recommendation Change, and written copies of any relevant proposed transaction agreements with any party making a potential Superior Offer, (y) during any Parent Notice Period, the Company shall be entitled to deliver to Parent one or more counterproposals to such Acquisition Proposal and Parent will, and cause its Representatives to, negotiate with the Company in good faith (to the extent the Company desires to negotiate) to make such adjustments in the terms and conditions of this Agreement so that the applicable Acquisition Proposal ceases to constitute a Superior Offer and (z) in the event of any material amendment to any Superior Offer (including any revision in the amount, form or mix of consideration the Parent's stockholders would receive as a result of such potential Superior Offer), Parent shall be required to provide the Company with notice of such material amendment and the Parent Notice Period shall be extended, if applicable, to ensure that at least three (3) Business Days remain in the Parent Notice Period following such notification during which the parties shall comply again with the requirements of this Section 6.3(c) and the Parent Board shall not make a Parent Board Adverse Recommendation Change prior to the end of such Parent Notice Period as so extended (it being understood that there may be multiple extensions).

(d) Parent's obligation to call, give notice of and hold the Parent Stockholder Meeting in accordance with Section 6.3(a) shall not be limited or otherwise affected by the commencement, disclosure, announcement or submission of any Superior Offer or Acquisition Proposal, or by any Parent Board Adverse Recommendation Change.

(e) Nothing contained in this Agreement shall prohibit Parent or the Parent Board from complying with Rules 14d-9 and 14e-2(a) promulgated under the Exchange Act; provided, however, that any disclosure made by Parent or the Parent Board pursuant to Rules 14d-9 and 14e-2(a) shall be limited to a statement that Parent is unable to take a position with respect to the bidder's tender offer unless the Parent Board determines in good faith, after consultation with its outside legal counsel, that such statement would reasonably be expected to be inconsistent with its fiduciary duties under applicable Law.

6.4 Efforts; Regulatory Approvals.

(a) The Parties shall use reasonable best efforts to consummate the Contemplated Transactions. Without limiting the generality of the foregoing, each Party: (i) shall make all filings and other submissions (if any) and give all notices (if any) required to be made and given by such Party in connection with the Contemplated Transactions, (ii) shall use commercially reasonable efforts to obtain each Consent (if any) reasonably required to be obtained (pursuant to any applicable Law or Contract, or otherwise) by such Party in connection with the Contemplated Transactions or for such Contract to remain in full force and effect, (iii) shall use commercially reasonable efforts to lift any injunction prohibiting, or any other legal bar to, the Contemplated Transactions and (iv) shall use commercially reasonable efforts to satisfy the conditions precedent to the consummation of this Agreement.

(b) Notwithstanding the generality of the foregoing, each Party shall use commercially reasonable efforts to file or otherwise submit, as soon as practicable after the date of this Agreement, all applications, notices, reports and other documents reasonably required to be filed by such Party with or otherwise submitted by such Party to any Governmental Authority with respect to the Contemplated Transactions, and to submit promptly any additional information requested by any such Governmental Authority. Without limiting the generality of the foregoing, the Parties shall prepare and file, if required, (i) the notification and report forms required to be filed under the Hart–Scott–Rodino Antitrust Improvements Act of 1976 and (ii) any notification or other document required to be filed in connection with the Merger under any applicable foreign Law relating to antitrust or competition matters, no later than ten (10) Business Days after the date the Company and Parent receive notification (in writing or otherwise) from the Federal Trade Commission, the Department of Justice, any state attorney general, foreign antitrust or competition authority or other Governmental Authority that a filing is required in connection with antitrust or competition matters.

(c) Without limiting the generality of the foregoing, Parent shall give the Company prompt written notice of any litigation against Parent and/or its directors relating to this Agreement or the Contemplated Transactions ("**Transaction Litigation**") (including by providing copies of all pleadings with respect thereto) and keep the Company reasonably informed with respect to the status thereof. Parent will (i) give the Company the opportunity to participate in, but not control, the defense, settlement or prosecution of any Transaction Litigation (to the extent that the attorney-client privilege is not undermined or otherwise adversely affected; provided that Parent and the Company will use commercially reasonable efforts to find alternative solutions to not undermine or adversely affect the privilege, such as entering into common interest agreements, joint defense agreements or similar agreements), (ii) consult with the Company with respect to the defense, settlement and prosecution of any Transaction Litigation and (iii) consider in good faith the Company's advice with respect to such Transaction Litigation. Parent will obtain the prior written consent of the Company (such consent not to be unreasonably withheld, conditioned or delayed) prior to settling or satisfying any such claim.

6.5 Company Options; Company Restricted Stock Units.

(a) At the Effective Time, Parent shall assume each Company Equity Incentive Plan and each Company Option, whether vested or unvested, that is outstanding immediately prior to the Effective Time. As a result, each such Company Option shall, at the Effective Time, cease to represent a right to acquire shares of Company Common Stock and shall be converted, at the Effective Time, into an option to purchase shares of Parent Common Stock (an "**Assumed Option**"), on the same terms and conditions (including any vesting provisions and any provisions providing for accelerated vesting upon certain events) as were applicable under such Company Option as of immediately prior to the Effective Time, except for administrative or ministerial changes as determined by the Company Board (or, following the Effective Time, the Parent Board or compensation committee). The number of shares of Parent Common Stock subject to each such Assumed Option shall be equal to (i) the number of shares of Company Common Stock subject to the respective Company Option immediately prior to the Effective Time multiplied by (ii) the Exchange Ratio, rounded down, if necessary, to the nearest whole share of Parent Common Stock, and such Assumed Option shall have an exercise price per share

(rounded up to the nearest whole cent) equal to (A) the exercise price per share of the Company Common Stock otherwise purchasable pursuant to the respective Company Option immediately prior to the Effective Time divided by (B) the Exchange Ratio; provided, that in the case of any Company Option to which Section 421 of the Code applies as of immediately prior to the Effective Time (taking into account the effect of any accelerated vesting thereof, if applicable) by reason of its qualification under Section 422 of the Code, the exercise price, the number of shares of Parent Common Stock subject to such option and the terms and conditions of exercise of such option shall be determined in a manner consistent with the requirements of Section 424(a) of the Code; provided further, that in the case of any Assumed Option to which Section 409A of the Code applies as of the Effective Time, the exercise price, the number of shares of Parent Common Stock subject to such option and the terms and conditions of exercise of such option shall be determined in a manner consistent with the requirements of Section 409A of the Code in order to avoid the imposition of any additional taxes thereunder. The Company Board shall, prior to the Effective Time, take all actions necessary to effect the foregoing.

(b) At the Effective Time, Parent shall assume each Company Restricted Stock Unit, whether vested or unvested, that is outstanding immediately prior to the Effective Time. As a result, each such Company Restricted Stock Unit shall, at the Effective Time, cease to represent a right to acquire shares of Company Common Stock and shall be converted, at the Effective Time, into a restricted stock unit in respect of shares of Parent Common Stock (an "**Assumed Company Restricted Stock Unit**"), on the same terms and conditions (including any vesting provisions and any provisions providing for accelerated vesting upon certain events) as were applicable under such Company Restricted Stock Unit as of immediately prior to the Effective Time, except for administrative or ministerial changes as determined by the Company Board (or, following the Effective Time, the Parent Board or compensation committee). The number of shares of Parent Common Stock subject to each such Assumed Company Restricted Stock Unit shall be equal to (i) the number of shares of Company Common Stock subject to the respective Company Restricted Stock Unit immediately prior to the Effective Time multiplied by (ii) the Exchange Ratio, rounded down, if necessary, to the nearest whole share of Parent Common Stock. The Company Board shall, prior to the Effective Time, take all actions necessary to effect the foregoing.

(c) Parent shall (or shall cause the applicable plan sponsor to), effective no later than the Business Day preceding the Closing Date, adopt written resolutions and take all actions reasonably necessary or appropriate to terminate any Parent Employee Plan intended to be qualified under Section 401(a) of the Code in compliance with the terms of such plan and the requirements of applicable Law. The form and substance of such resolutions and any other actions taken in connection with the foregoing termination shall be subject to the prior review and approval of the Company, not to be unreasonably withheld.

6.6 Employee Benefits.

(a) Parent and the Surviving Corporation shall comply with the terms of any employment, severance, retention, change of control, or similar agreement specified in Section 4.17(d) or contemplated by Section 5.1(b) of the Parent Disclosure Schedule, subject to the provisions of such agreements.

(b) From and after the Effective Time, with respect to each benefit plan maintained by Parent or the Surviving Corporation that is an "employee welfare benefit plan" as defined in Section 3(1) of ERISA (each, a "**Post-Closing Welfare Plan**") in which any current or former employee of Parent is or becomes eligible to participate (including under COBRA), Parent and the Surviving Corporation shall use commercially reasonable efforts to cause each such Post-Closing Welfare Plan to (i) waive all limitations as to pre-existing conditions, waiting periods, required physical examinations and exclusions with respect to participation and coverage requirements applicable under such Post-Closing Welfare Plan for such current or former Parent employee and his or her eligible dependents to the same extent that such pre-existing conditions, waiting periods, required physical examinations and exclusions would not have applied or would have been waived under the corresponding Parent Employee Plan in which such current or former Parent employee was a participant immediately prior to his or her commencement of participation in such Post-Closing Welfare Plan, and (ii) provide each such current or former Parent employee and his or her eligible dependents with credit for any

co-payments and deductibles paid in the plan year that includes the Effective Time, and prior to the date that, such current or former Parent employee commences participation in such Post-Closing Welfare Plan in satisfying any applicable co-payment or deductible requirements under such Post-Closing Welfare Plan for the applicable plan year, to the extent that such expenses were recognized for such purposes under the comparable Parent Employee Plan.

6.7 Parent Equity Awards.

(a) Parent Options. Prior to the Closing, the Parent Board shall have adopted appropriate resolutions and taken all other actions necessary and appropriate to provide that the vesting and exercisability of each unexpired, unexercised and unvested Parent Option that has an exercise price per share less than $3.78 that is held by a current employee, director or consultant of Parent as of immediately prior to the Effective Time, or who ceases to be a current employee, director or consultant of Parent as of immediately prior to the Effective Time (each such option, an "**Accelerated Post-Closing Parent Option**") shall be accelerated in full as of immediately prior to the Effective Time contingent upon the occurrence of the Closing. Notwithstanding the foregoing, to the extent a Parent Option has an exercise price per share equal to or greater than $3.78 and is eligible for accelerated vesting pursuant to an existing Parent Employee Plan, such acceleration eligibility is not modified or superseded by this Section 6.7(a).

(b) Parent Restricted Stock Units. Prior to the Closing, the Parent Board shall have adopted appropriate resolutions and taken all other actions necessary and appropriate to provide that (i) the vesting of each outstanding and unvested Parent Restricted Stock Unit that vests solely on the basis of time shall be accelerated in full effective as of immediately prior to the Effective Time, contingent on the occurrence of the Closing and (ii) for each outstanding and unsettled Parent Restricted Stock Unit that vests solely on the basis of time (including any Parent Restricted Stock Units accelerated under Section 6.7(b)(i) above) the holder thereof shall receive, immediately prior to the Effective Time, a number of shares of Parent Common Stock equal to the number of vested and unsettled shares underlying such Parent Restricted Stock Units. For the avoidance of doubt, any Parent Restricted Stock Unit that vests in whole or in part based on the achievement of performance goals shall not be impacted by this Section 6.7(b) and shall remain in effect in accordance with their terms.

(c) Parent ESPP. Prior to the Closing, the Parent Board shall have adopted appropriate resolutions and taken all other actions necessary and appropriate with respect to Parent ESPP to provide that: (i) with respect to any offering period in effect as of the date hereof (the "**Current ESPP Offering Period**"), no employee who is not a participant in the Parent ESPP as of the date hereof may become a participant in the Parent ESPP and no participant may increase the percentage amount of his or her payroll deduction election from that in effect on the date hereof for the Current ESPP Offering Period; (ii) the Parent ESPP shall be suspended and no new offering period shall be commenced under the Parent ESPP prior to the termination of this Agreement; and (iii) if any Current ESPP Offering Period is still in effect at the Effective Time, then the last day of such Current ESPP Offering Period shall be accelerated to a date before the Closing Date and determined by the Company Board (or relevant committee thereof) in its discretion.

6.8 Indemnification of Officers and Directors.

(a) From the Effective Time through the sixth anniversary of the date on which the Effective Time occurs, each of Parent and the Surviving Corporation shall indemnify and hold harmless each person who is now, or has been at any time prior to the date hereof, or who becomes prior to the Effective Time a director or officer of Parent or the Company, respectively (the "**D&O Indemnified Parties**"), against all claims, losses, liabilities, damages, judgments, fines and reasonable fees, costs and expenses, including attorneys' fees and disbursements (collectively, "**Costs**"), incurred in connection with any claim, action, suit, proceeding or investigation, whether civil, criminal, administrative or investigative, arising out of or pertaining to the fact that the D&O Indemnified Party is or was a director or officer of Parent or the Company, whether asserted or claimed prior to, at or after the Effective Time, in each case, to the fullest extent permitted under the DGCL. Each D&O Indemnified Party will

be entitled to an advancement of Costs incurred in the defense of any such claim, action, suit, proceeding or investigation from each of Parent and the Surviving Corporation, jointly and severally, upon receipt by Parent or the Surviving Corporation from the D&O Indemnified Party of a request therefor; provided that any such person to whom Costs are advanced provides an undertaking to Parent, to the extent then required by the DGCL, to repay such advances if it is ultimately determined that such person is not entitled to indemnification. Without otherwise limiting the D&O Indemnified Parties' rights with regards to counsel, following the Effective Time, the D&O Indemnified Parties shall be entitled to continue to retain Fenwick & West LLP or such other counsel selected by the D&O Indemnified Parties.

(b) The provisions of the certificate of incorporation and bylaws of Parent with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers of Parent that are presently set forth in the certificate of incorporation and bylaws of Parent shall not be amended, modified or repealed for a period of six (6) years from the Effective Time in a manner that would adversely affect the rights thereunder of individuals who, at or prior to the Effective Time, were officers or directors of Parent, unless such modification is required by applicable Law. The certificate of incorporation and bylaws of the Surviving Corporation shall contain, and Parent shall cause the certificate of incorporation and bylaws of the Surviving Corporation to so contain, provisions no less favorable with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers as those presently set forth in the certificate of incorporation and bylaws of Parent.

(c) From and after the Effective Time, (i) the Surviving Corporation shall fulfill and honor in all respects the obligations of the Company to its D&O Indemnified Parties as of immediately prior to the Closing, pursuant to any indemnification provisions under the Company's Organizational Documents and pursuant to any indemnification agreements between the Company and such D&O Indemnified Parties, with respect to claims arising out of matters occurring at or prior to the Effective Time and (ii) Parent shall fulfill and honor in all respects the obligations of Parent to its D&O Indemnified Parties as of immediately prior to the Closing pursuant to any indemnification provisions under Parent's Organizational Documents and pursuant to any indemnification agreements between Parent and such D&O Indemnified Parties, with respect to claims arising out of matters occurring at or prior to the Effective Time.

(d) From and after the Effective Time, Parent shall maintain directors' and officers' liability insurance policies, with an effective date as of the Closing Date, on commercially reasonable terms and conditions and with coverage limits customary for U.S. public companies similarly situated to Parent. In addition, Parent shall purchase, prior to the Effective Time, a six (6) year prepaid "D&O tail policy" for the non-cancelable extension of the directors' and officers' liability coverage of Parent's existing directors' and officers' insurance policies for a claims report or discovery period of at least six (6) years from and after the Effective Time with respect to any claim related to any period of time at or prior to the Effective Time with terms, conditions, retentions and limits of liability that are no less favorable than the coverage provided under Parent's existing policies as of the date of this Agreement, except that Parent will not commit or spend on such "D&O Tail policy" annual premiums in excess of 250% of the annual premiums paid by Parent in its last full fiscal year prior to the date hereof for Parent's current policies of directors' and officers' liability insurance and fiduciary liability insurance, and if such premiums for such "D&O tail policy" would exceed 250% of such annual premium, then Parent shall purchase policies that provide the maximum coverage available at an annual premium equal to 250% of such annual premium. The Company shall in good faith cooperate with Parent prior to the Effective Time with respect to the procurement of such "D&O tail policy."

(e) From and after the Effective Time, Parent shall pay all expenses, including reasonable attorneys' fees, that are incurred by the persons referred to in this Section 6.8 in connection with their enforcement of the rights provided to such persons in this Section 6.8.

(f) The provisions of this Section 6.8 are intended to be in addition to the rights otherwise available to the current and former officers and directors of Parent and the Company by Law, charter, statute,

bylaw or agreement, and shall operate for the benefit of, and shall be enforceable by, each of the D&O Indemnified Parties, their heirs and their Representatives.

(g) In the event Parent or the Surviving Corporation or any of their respective successors or assigns (i) consolidates with or merges into any other Person and shall not be the continuing or Surviving Corporation or Entity of such consolidation or merger or (ii) transfers all or substantially all of its properties and assets to any Person, then, and in each such case, proper provision shall be made so that the successors and assigns of Parent or the Surviving Corporation, as the case may be, shall succeed to the obligations set forth in this Section 6.8. Parent shall cause the Surviving Corporation to perform all of the obligations of the Surviving Corporation under this Section 6.8.

6.9 Disclosure. The Parties shall use their commercially reasonable efforts to agree to the text of any initial press release and Parent's Form 8-K announcing the execution and delivery of this Agreement. Without limiting any Party's obligations under the Confidentiality Agreement, no Party shall, and no Party shall permit any of its Subsidiaries or any of its Representative to, issue any press release or make any public disclosure regarding the Contemplated Transactions unless: (a) the other Party shall have approved such press release or disclosure in writing, with such approval not to be unreasonably conditioned, withheld or delayed; or (b) such Party shall have determined in good faith, upon the advice of outside legal counsel, that such disclosure is required by applicable Law and, to the extent practicable, before such press release or disclosure is issued or made, such Party advises the other Party of, and consults with the other Party regarding, the text of such press release or disclosure; provided, however, that each of the Company and Parent may make any public statement in response to specific questions by the press, analysts, investors or those attending industry conferences or financial analyst conference calls, so long as any such statements are consistent with previous press releases, public disclosures or public statements made by the Company or Parent in compliance with this Section 6.9. Notwithstanding the foregoing, a Party need not consult with any other Parties in connection with such portion of any press release, public statement or filing to be issued or made pursuant to Section 6.2(d) or pursuant to Section 6.3(e).

6.10 Listing. At or prior to the Effective Time, Parent shall use its commercially reasonable efforts to (a) maintain its listing on Nasdaq until the Effective Time, including submitting any applicable extension requests or attending any hearings with requested by a Nasdaq de-listing panel; (b) prepare and submit to Nasdaq, to the extent required by the rules and regulations of Nasdaq, a notification form for the listing of (i) the shares of Parent Common Stock to be issued in connection with the Contemplated Transactions and (ii) the shares of Parent Common Stock issuable upon exercise of the Parent Pre-Funded Warrants to be issued in connection with the Contemplated Transactions, and cause such shares to be approved for listing (subject to official notice of issuance); (c) prepare and timely submit to Nasdaq a notification form for the Nasdaq Reverse Split (if required) and submit a copy of the amendment to Parent's certificate of incorporation effecting the Nasdaq Reverse Split, certified by the Secretary of State of the State of Delaware, to Nasdaq on the Closing Date; and (d) to the extent required by Nasdaq Marketplace Rule 5110, assist the Company in preparing and filing an initial listing application for the Parent Common Stock on Nasdaq (the "**Nasdaq Listing Application**") and cause such Nasdaq Listing Application to be conditionally approved prior to the Effective Time. Each Party will reasonably promptly inform the other Party of all verbal or written communications between Nasdaq and such Party or its Representatives. The Parties will use commercially reasonable efforts to coordinate with respect to compliance with Nasdaq rules and regulations. The Party not filing the Nasdaq Listing Application will cooperate with the other Party as reasonably requested by such filing Party with respect to the Nasdaq Listing Application and promptly furnish to such filing Party all information concerning itself and its members that may be required or reasonably requested in connection with any action contemplated by this Section 6.10. All Nasdaq fees associated with any action contemplated by this Section 6.10 (the "**Nasdaq Fees**") shall be shared by the Company and Parent pro rata in accordance with their respective Allocation Percentages.

6.11 Tax Matters.

(a) The Parties shall use reasonable best efforts (and each shall cause its Affiliates) to cause the Merger to qualify for the Intended Tax Treatment. No Party shall take any actions, or fail to take any action, which action or failure to act would reasonably be expected to prevent or impede the Intended Tax Treatment. The Parties shall report the Contemplated Transactions for all applicable Tax purposes in a manner that is consistent with the Intended Tax Treatment unless otherwise required by a change in applicable Law after the date of this Agreement. No Party shall take any position that is inconsistent with such reporting position during the course of any audit, litigation or other proceeding with respect to Taxes, in each case, unless otherwise required by a determination within the meaning of Section 1313(a) of the Code. The Parties shall comply with the recordkeeping and information reporting requirements imposed on them, including, but not limited to, those set forth in Treasury Regulation Section 1.368-3.

(b) Parent shall promptly notify the Company if, at any time before the Effective Time, Parent becomes aware of any fact or circumstance that would reasonably be expected to prevent, cause a failure of, or impede the Intended Tax Treatment. The Company shall promptly notify Parent if, at any time before the Effective Time, the Company becomes aware of any fact or circumstance that would reasonably be expected to prevent, cause a failure of, or impede the Intended Tax Treatment.

(c) If the SEC requires that an opinion with respect to the Intended Tax Treatment be prepared and submitted in connection with the Registration Statement and Proxy Statement, (i) the Company shall cause Gibson, Dunn and Crutcher LLP (or such other nationally recognized law or accounting firm reasonably satisfactory to the Company) to furnish such opinion (as so required and subject to customary assumptions and limitations) and (ii) Parent and the Company shall each deliver to Gibson, Dunn and Crutcher LLP (or such other nationally recognized law or accounting firm reasonably satisfactory to the Company) a Tax certificate, dated as of the date the Registration Statement and Proxy Statement shall have been declared effective by the SEC and signed by an officer of Parent or the Company, as applicable, containing customary representations and covenants reasonably acceptable to the Company and Parent, as applicable, in each case, as reasonably necessary and appropriate to enable such advisors to render such opinion (the "**Tax Certificates**"). Each of Parent and the Company shall use its commercially reasonable efforts not to take or cause to be taken any action that would cause to be untrue (or fail to take or cause not to be taken any action which would cause to be untrue) any of the Tax certifications, covenants or representations included in the Tax Certificates.

(d) Parent and the Company shall reasonably cooperate in the preparation, execution and filing of all Tax Returns, questionnaires, applications or other documents regarding any real property transfer, sales, use, transfer, value added, stock transfer and stamp taxes, and transfer, recording, registration and other fees and similar Taxes which become payable in connection with the Merger that are required or permitted to be filed on or before the Effective Time. Each of Parent and the Company shall pay, without deduction from any consideration or other amounts payable or otherwise deliverable pursuant to this Agreement and without reimbursement from the other Party, any such Taxes or fees imposed on it by any Governmental Authority, which becomes payable in connection with the Merger.

6.12 Legends. Parent shall be entitled to place appropriate legends on the book entries and/or certificates evidencing any shares of Parent Common Stock (or shares of Parent Common Stock underlying Parent Pre-Funded Warrants) to be received in the Merger by equityholders of the Company who may be considered "affiliates" of Parent for purposes of Rules 144 and 145 under the Securities Act reflecting the restrictions set forth in Rules 144 and 145 and to issue appropriate stop transfer instructions to the transfer agent for Parent Common Stock.

6.13 Officers and Directors. Until successors are duly elected or appointed and qualified in accordance with applicable Law, the Parties shall use commercially reasonable efforts and take all necessary action so that the Persons listed on Section 6.13 of the Parent Disclosure Schedule are elected or appointed, as applicable, to

the positions of officers or directors of Parent and the Surviving Corporation, as set forth therein, to serve in such positions effective as of the Effective Time. If any Person listed on Section 6.13 of the Parent Disclosure Schedule is unable or unwilling to serve as officer or director of Parent or the Surviving Corporation, as set forth therein, the Party appointing such Person (as set forth on Section 6.13 of the Parent Disclosure Schedule) shall designate a successor. The Parties shall use reasonable best efforts to have each of the Persons that will serve as directors and officers of the Parent following the Closing to execute and deliver a Lock-Up Agreement prior to Closing.

6.14 Termination of Certain Agreements and Rights. Except as disclosed in Section 6.14 of the Parent Disclosure Schedule, each of Parent and the Company shall cause any stockholder agreements, voting agreements, registration rights agreements, co-sale agreements and any other similar Contracts between either Parent or the Company and any holders of Parent Common Stock or Company Capital Stock, respectively, including any such Contract granting any Person investor rights, rights of first refusal, registration rights or director registration rights, to be terminated immediately prior to the Effective Time, without any liability being imposed on the part of Parent or the Surviving Corporation.

6.15 Section 16 Matters. Prior to the Effective Time, Parent shall take all such steps as may be required to cause any acquisitions of Parent Common Stock and any options to purchase Parent Common Stock in connection with the Contemplated Transactions, by each individual who is reasonably expected to become subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to Parent, to be exempt under Rule 16b-3 promulgated under the Exchange Act.

6.16 Allocation Certificate. The Company will prepare and deliver to Parent prior to the Closing a certificate signed by the Company's Chief Executive Officer in a form reasonably acceptable to Parent setting forth (as of immediately prior to the Effective Time) (a) each holder of Company Capital Stock, (b) such holder's name and address, (c) the number or percentage and type of Company Capital Stock held as of the Closing Date for each such holder and (d) the number of shares of Parent Common Stock to be issued to such holder pursuant to this Agreement in respect of the Company Capital Stock held by such holder as of immediately prior to the Effective Time (the "**Allocation Certificate**").

6.17 Parent SEC Documents. From the date of this Agreement to the Effective Time, Parent shall timely file with the SEC all registration statements, proxy statements, Certifications, reports, schedules, exhibits, forms and other documents required to be filed by Parent with the SEC required to be filed by it under the Exchange Act or the Securities Act ("**SEC Documents**"). As of its filing date, or if amended after the date of this Agreement, as of the date of the last such amendment, each SEC Document filed by Parent with the SEC (a) shall comply in all material respects with the applicable requirements of the Exchange Act and the Securities Act, and (b) shall not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading.

6.18 Obligations of Merger Sub. Parent will take all action necessary to cause Merger Sub to perform its obligations under this Agreement and to consummate the Merger on the terms and conditions set forth in this Agreement.

6.19 280G. The Company and Parent will use best efforts to mitigate and/or minimize the impact of the tax consequences of Section 280G of the Code on any individual that is regarded as a "disqualified individual" (as such term is defined in Treasury Regulation Section 1.280G-1).

6.20 Lock-Up Agreement. Company and Parent shall each use reasonable best efforts to obtain executed Lock-Up Agreements from each Person who will beneficially own more than 5% of the outstanding shares of Parent Common Stock following the consummation of the Merger.

6.21 Reservation of Parent Common Stock; Issuance of Shares of Parent Common Stock. For as long as any Parent Pre-Funded Warrant remains outstanding, Parent shall at all times reserve and keep available, free from preemptive rights, out of its authorized but unissued Parent Common Stock or shares of Parent Common Stock held in treasury by Parent, for the purpose of effecting the conversion of the Parent Pre-Funded Warrants, the full number of shares of Parent Common Stock then issuable upon the conversion of all Parent Pre-Funded Warrants then outstanding. All shares of Parent Common Stock delivered upon conversion of the Parent Pre-Funded Warrants shall be newly issued shares or shares held in treasury by Parent, shall have been duly authorized and validly issued and shall be fully paid and nonassessable, and shall be free from preemptive rights and free of any Encumbrance.

Section 7. Conditions Precedent to Obligations of Each Party. The obligations of each Party to effect the Merger and otherwise consummate the Contemplated Transactions to be consummated at the Closing are subject to the satisfaction or, to the extent permitted by applicable law, the written waiver by each of the Parties, at or prior to the Closing, of each of the following conditions:

7.1 Effectiveness of Registration Statement. The Registration Statement shall have become effective in accordance with the provisions of the Securities Act, and shall not be subject to any stop order or proceeding (or threatened proceeding by the SEC) seeking a stop order with respect to the Registration Statement that has not been withdrawn. Any material state securities laws applicable to the issuance of the shares of Parent Common Stock and Parent Pre-Funded Warrants in connection with the Contemplated Transactions or the issuance of shares of Parent Common Stock underlying the Parent Pre-Funded Warrants exchanged in connection with the Contemplated Transactions, in each case, shall have been complied with and no stop order (or similar order) shall have been issued or threatened in writing in respect of thereof by any applicable state securities commissioner or court of competent jurisdiction.

7.2 No Restraints. No temporary restraining order, preliminary or permanent injunction or other Order preventing the consummation of the Contemplated Transactions shall have been issued by any court of competent jurisdiction or other Governmental Authority of competent jurisdiction and remain in effect and there shall not be any Law which has the effect of making the consummation of the Contemplated Transactions illegal.

7.3 Stockholder Approval. (a) Parent shall have obtained the Parent Stockholder Merger Vote and (b) the Company shall have obtained the Required Company Stockholder Vote.

7.4 Listing. (a) The Nasdaq Listing Application shall have been approved and (b) the shares of Parent Common Stock to be issued in the Merger pursuant to this Agreement shall have been approved for listing (subject to official notice of issuance) on Nasdaq as of the Closing.

Section 8. Additional Conditions Precedent to Obligations of Parent and Merger Sub. The obligations of Parent and Merger Sub to effect the Merger and otherwise consummate the transactions to be consummated at the Closing are subject to the satisfaction or the written waiver by Parent, at or prior to the Closing, of each of the following conditions:

8.1 Accuracy of Representations. The Company Fundamental Representations shall have been true and correct in all material respects as of the date of this Agreement and shall be true and correct on and as of the Closing Date with the same force and effect as if made on and as of such date (except to the extent such representations and warranties are specifically made as of a particular date, in which case such representations and warranties shall be true and correct as of such date). The Company Capitalization Representations shall have been true and correct in all respects as of the date of this Agreement and shall be true and correct on and as of the Closing Date with the same force and effect as if made on and as of such date, except, in each case, (x) for such inaccuracies which are de minimis, individually or in the aggregate, or (y) for those representations and warranties which address matters only as of a particular date (which representations and warranties shall have been true and correct, subject to the qualifications as set forth in the preceding clause (x), as of such particular

date). The representations and warranties of the Company contained in this Agreement (other than the Company Fundamental Representations and the Company Capitalization Representations) shall have been true and correct as of the date of this Agreement and shall be true and correct on and as of the Closing Date with the same force and effect as if made on the Closing Date except (a) in each case, or in the aggregate, where the failure to be so true and correct would not reasonably be expected to have a Company Material Adverse Effect (without giving effect to any references therein to any Company Material Adverse Effect or other materiality qualifications) or (b) for those representations and warranties which address matters only as of a particular date (which representations shall have been true and correct, subject to the qualifications as set forth in the preceding clause (a), as of such particular date) (it being understood that, for purposes of determining the accuracy of such representations and warranties, any update of or modification to the Company Disclosure Schedule made or purported to have been made after the date of this Agreement shall be disregarded).

8.2 Performance of Covenants. The Company shall have performed or complied with in all material respects all agreements and covenants required to be performed or complied with by it under this Agreement at or prior to the Effective Time.

8.3 Documents. Parent shall have received the following documents, each of which shall be in full force and effect:

(a) a certificate executed by the Chief Executive Officer or Chief Financial Officer of the Company certifying (i) that the conditions set forth in Sections 8.1, 8.2, 8.4, 8.5 and 8.6 have been duly satisfied and (ii) that the information (other than emails and addresses) set forth in the Allocation Certificate delivered by the company in accordance with Section 6.16 is true and accurate in all respects as of the Closing Date;

(b) a certificate pursuant to Treasury Regulations Sections 1.1445-2(c) and 1.897-2(h), together with a form of notice to the IRS in accordance with the requirements of Treasury Regulations Section 1.897-2(h), in each case, in form and substance reasonably acceptable to Parent; and

(c) the Allocation Certificate.

8.4 No Company Material Adverse Effect. Since the date of this Agreement, there shall not have occurred any Company Material Adverse Effect.

8.5 Company Stockholder Written Consent. The Company Stockholder Written Consent executed by the stockholders of the Company shall be in full force and effect.

8.6 Company Pre-Closing Financing. The Subscription Agreement shall be in full force and effect and gross cash proceeds of not less than the Concurrent Investment Amount shall have been received by the Company, or will be received by the Company substantially simultaneously with the Closing in connection with the consummation of the transactions contemplated by the Subscription Agreement.

Section 9. Additional Conditions Precedent to Obligation of the Company. The obligations of the Company to effect the Merger and otherwise consummate the transactions to be consummated at the Closing are subject to the satisfaction or the written waiver by the Company, at or prior to the Closing, of each of the following conditions:

9.1 Accuracy of Representations. Each of the Parent Fundamental Representations shall have been true and correct in all material respects as of the date of this Agreement and shall be true and correct on and as of the Closing Date with the same force and effect as if made on and as of such date (except to the extent such representations and warranties are specifically made as of a particular date, in which case such representations and warranties shall be true and correct as of such date). The Parent Capitalization Representations shall have been true and correct in all respects as of the date of this Agreement and shall be true and correct on and as of the

Closing Date with the same force and effect as if made on and as of such date, except, in each case, (x) for such inaccuracies which are de minimis, individually or in the aggregate, (y) for those representations and warranties which address matters only as of a particular date (which representations and warranties shall have been true and correct, subject to the qualifications as set forth in the preceding clause (x), as of such particular date) or (z) variances arising solely due to the transactions contemplated under the Subscription Agreement. The representations and warranties of Parent and Merger Sub contained in this Agreement (other than the Parent Fundamental Representations and the Parent Capitalization Representations) shall have been true and correct as of the date of this Agreement and shall be true and correct on and as of the Closing Date with the same force and effect as if made on the Closing Date except (a) in each case, or in the aggregate, where the failure to be true and correct would not reasonably be expected to have a Parent Material Adverse Effect (without giving effect to any references therein to any Parent Material Adverse Effect or other materiality qualifications) or (b) for those representations and warranties which address matters only as of a particular date (which representations shall have been true and correct, subject to the qualifications as set forth in the preceding clause (a), as of such particular date) (it being understood that, for purposes of determining the accuracy of such representations and warranties, any update of or modification to the Parent Disclosure Schedule made or purported to have been made after the date of this Agreement shall be disregarded).

9.2 Performance of Covenants. Parent and Merger Sub shall have performed or complied with in all material respects all of their agreements and covenants required to be performed or complied with by each of them under this Agreement at or prior to the Effective Time.

9.3 Documents. The Company shall have received the following documents, each of which shall be in full force and effect:

(a) a certificate executed by an executive officer of Parent certifying that the conditions set forth in Sections 9.1, 9.2 and 9.4 have been duly satisfied;

(b) written resignations in forms satisfactory to the Company, dated as of the Closing Date and effective as of the Closing executed by the officers and directors of Parent who are not to continue as officers or directors of Parent pursuant to Section 6.13 hereof; and

(c) the Parent Net Cash Schedule.

9.4 No Parent Material Adverse Effect. Since the date of this Agreement, there shall not have occurred any Parent Material Adverse Effect.

9.5 Parent Net Cash. Parent Net Cash, as finally determined pursuant to Section 2.9, shall not be less than $60,000,000.

Section 10. Termination.

10.1 Termination. This Agreement may be terminated prior to the Effective Time (whether before or after adoption of this Agreement by the Company's stockholders and whether before or after approval of the Parent Stockholder Matters by Parent's stockholders, unless otherwise specified below):

(a) by mutual written consent of Parent and the Company;

(b) by either Parent or the Company if the Merger shall not have been consummated by January 17, 2024 (subject to possible extension as provided in this Section 10.1(b), the "**End Date**"); provided that in the event that the SEC has declared effective under the Securities Act the Registration Statement by the End Date, then either the Company or Parent shall be entitled to extend the End Date for an additional sixty (60) days in order to hold the Parent Stockholder Meeting and obtain the Parent Stockholder Merger Vote;

provided, however, that the right to terminate this Agreement or to extend the End Date under this Section 10.1(b) shall not be available to the Company or Parent if such Party's (or in the case of Parent, Merger Sub) action or failure to act has been a principal cause of the failure of the Merger to occur on or before the End Date and such action or failure to act constitutes a breach of this Agreement;

(c) by either Parent or the Company if a court of competent jurisdiction or other Governmental Authority shall have issued a final and nonappealable Order, or shall have taken any other action, having the effect of permanently restraining, enjoining or otherwise prohibiting the Contemplated Transactions;

(d) by Parent if the Required Company Stockholder Vote shall not have been obtained within two (2) Business Days of the Registration Statement becoming effective in accordance with the provisions of the Securities Act; provided, however, that once the Required Company Stockholder Vote has been obtained, Parent may not terminate this Agreement pursuant to this Section 10.1(d);

(e) by either Parent or the Company if (i) the Parent Stockholder Meeting (including any adjournments and postponements thereof) shall have been held and completed and Parent's stockholders shall have taken a final vote on the Parent Stockholder Matters and (ii) the Parent Stockholder Merger Approval Matter shall not have been approved at the Parent Stockholder Meeting (or at any adjournment or postponement thereof) by the Parent Stockholder Merger Vote; provided, however, that the right to terminate this Agreement under this Section 10.1(e) shall not be available to Parent where the failure to obtain the Parent Stockholder Merger Vote shall have been caused by the action or failure to act of Parent and such action or failure to act constitutes a material breach by Parent of this Agreement;

(f) by the Company (at any time prior to the approval of the Parent Stockholder Matters by the Parent Stockholder Vote) if a Parent Triggering Event shall have occurred;

(g) by Parent (at any time prior to the adoption of this Agreement and the approval of the Contemplated Transactions by the Required Company Stockholder Vote) if a Company Triggering Event shall have occurred;

(h) by the Company, upon a breach of any representation, warranty, covenant or agreement set forth in this Agreement by Parent or Merger Sub or if any representation or warranty of Parent or Merger Sub shall have become inaccurate, in either case, such that the conditions set forth in Section 9.1 or Section 9.2 would not be satisfied as of the time of such breach or as of the time such representation or warranty shall have become inaccurate; provided, that the Company is not then in material breach of any representation, warranty, covenant or agreement under this Agreement; provided, further, that if such inaccuracy in Parent's or Merger Sub's representations and warranties or breach by Parent or Merger Sub is curable by Parent or Merger Sub, then this Agreement shall not terminate pursuant to this Section 10.1(h) as a result of such particular breach or inaccuracy until the earlier of (i) the expiration of a thirty (30) day period commencing upon delivery of written notice from the Company to Parent or Merger Sub of such breach or inaccuracy and its intention to terminate pursuant to this Section 10.1(h) and (ii) Parent or Merger Sub (as applicable) ceasing to exercise commercially reasonable efforts to cure such breach following delivery of written notice from the Company to Parent or Merger Sub of such breach or inaccuracy and its intention to terminate pursuant to this Section 10.1(h) (it being understood that this Agreement shall not terminate pursuant to this Section 10.1(h) as a result of such particular breach or inaccuracy if such breach by Parent or Merger Sub is cured prior to such termination becoming effective);

(i) by Parent, upon a breach of any representation, warranty, covenant or agreement set forth in this Agreement by the Company or if any representation or warranty of the Company shall have become inaccurate, in either case, such that the conditions set forth in Section 8.1 or Section 8.2 would not be satisfied as of the time of such breach or as of the time such representation or warranty shall have become inaccurate; provided that Parent is not then in material breach of any representation, warranty, covenant or agreement under this Agreement; provided, further, that if such inaccuracy in the Company's representations and warranties or

breach by the Company is curable by the Company then this Agreement shall not terminate pursuant to this Section 10.1(i) as a result of such particular breach or inaccuracy until the earlier of (i) the expiration of a thirty (30) day period commencing upon delivery of written notice from Parent to the Company of such breach or inaccuracy and its intention to terminate pursuant to this Section 10.1(i) and (ii) the Company ceasing to exercise commercially reasonable efforts to cure such breach following delivery of written notice from Parent to the Company of such breach or inaccuracy and its intention to terminate pursuant to this Section 10.1(i) (it being understood that this Agreement shall not terminate pursuant to this Section 10.1(i) as a result of such particular breach or inaccuracy if such breach by the Company is cured prior to such termination becoming effective); or

(j) by Parent (at any time prior to the approval of the Parent Stockholder Matters by the Parent Stockholder Vote) and following compliance with all of the requirements set forth in the proviso to this Section 10.1(j), upon the Parent Board authorizing Parent to enter into a Permitted Alternative Agreement; provided, however, that Parent shall not enter into any Permitted Alternative Agreement unless: (i) the Company shall have received written notice from Parent of Parent's intention to enter into such Permitted Alternative Agreement at least four (4) Business Days in advance, with such notice describing in reasonable detail the reasons for such intention as well as the material terms and conditions of such Permitted Alternative Agreement, including the identity of the counterparty together with copies of the then current draft of such Permitted Alternative Agreement and any other related principal transaction documents, (ii) Parent shall have complied in all material respects with its obligations under Section 5.4 and Section 6.3, (iii) the Parent Board shall have determined in good faith, after consultation with its outside legal counsel, that the failure to enter into such Permitted Alternative Agreement would reasonably be expected to be inconsistent with its fiduciary obligations under applicable Law and (iv) Parent shall concurrently pay to the Company the Parent Termination Fee in accordance with Section 10.3(b).

The Party desiring to terminate this Agreement pursuant to this Section 10.1 (other than pursuant to Section 10.1(a)) shall give a notice of such termination to the other Party specifying the provisions hereof pursuant to which such termination is made and the basis therefor described in reasonable detail.

10.2 Effect of Termination. In the event of the termination of this Agreement as provided in Section 10.1, this Agreement shall be of no further force or effect; provided, however, that (a) this Section 10.2, Section 10.3 and Section 11 (and the related definitions of the defined terms in such section) shall survive the termination of this Agreement and shall remain in full force and effect and (b) the termination of this Agreement and the provisions of Section 10.3 shall not relieve any Party of any liability for fraud or for any willful and material breach of any representation, warranty, covenant, obligation or other provision contained in this Agreement.

10.3 Expenses; Termination Fees.

(a) Except as set forth in this Section 10.3 and Section 6.10 all fees and expenses incurred in connection with this Agreement and the Contemplated Transactions shall be paid by the Party incurring such expenses, whether or not the Merger is consummated.

(b) If (i) this Agreement is terminated by Parent or the Company pursuant to Section 10.1(e) or by the Company pursuant to Section 10.1(f), (ii) at any time after the date of this Agreement and prior to the Parent Stockholder Meeting, an Acquisition Proposal with respect to Parent shall have been publicly announced, disclosed or otherwise communicated to the Parent Board (and shall not have been withdrawn) and (iii) in the event this Agreement is terminated pursuant to Section 10.1(e), within twelve (12) months after the date of such termination, Parent enters into a definitive agreement with respect to a Subsequent Transaction or consummates a Subsequent Transaction, then Parent shall pay to the Company, within ten (10) Business Days after termination (or, if applicable, upon such entry into a definitive agreement or consummation of a Subsequent Transaction), a nonrefundable fee in an amount equal to $3,040,000 (the "**Parent Termination Fee**").

(c) If this Agreement is terminated (i) by the Company pursuant to Section 10.1(b) or Section 10.1(e) (when in either such case at the time this Agreement is terminated, the Company had the right to terminate this Agreement pursuant to Section 10.1(f)) then Parent shall pay to the Company within five (5) Business Days of such termination, the Parent Termination Fee or (ii) by Parent pursuant to Section 10.1(j), then Parent shall pay to the Company, concurrent with such termination, the Parent Termination Fee.

(d) If (i) this Agreement is terminated by Parent pursuant to Section 10.1(d) or Section 10.1(g), (ii) at any time after the date of this Agreement and before obtaining the Required Company Stockholder Vote, an Acquisition Proposal with respect to the Company shall have been publicly announced, disclosed or otherwise communicated to the Company Board (and shall not have been withdrawn) and (iii) in the event this Agreement is terminated pursuant to Section 10.1(d), within twelve (12) months after the date of such termination, the Company enters into a definitive agreement with respect to a Subsequent Transaction or consummates a Subsequent Transaction, then the Company shall pay to Parent, within ten (10) Business Days after termination (or, if applicable, upon such entry into a definitive agreement or consummation of a Subsequent Transaction), a nonrefundable fee in an amount equal to $12,000,000.

(e) If this Agreement is terminated by the Company pursuant to Section 10.1(h), Parent shall reimburse the Company for all reasonable out-of-pocket fees and expenses incurred by the Company in connection with this Agreement and the Contemplated Transactions, up to a maximum of $1,000,000, by wire transfer of same-day funds within ten (10) Business Days following the date on which the Company submits to Parent true and correct copies of reasonable documentation supporting such expenses.

(f) If this Agreement is terminated by Parent pursuant to Section 10.1(i), the Company shall reimburse Parent for all reasonable out-of-pocket fees and expenses incurred by Parent in connection with this Agreement and the Contemplated Transactions, up to a maximum of $1,000,000, by wire transfer of same-day funds within ten (10) Business Days following the date on which Parent submits to the Company true and correct copies of reasonable documentation supporting such expenses.

(g) If either Party fails to pay when due any amount payable by it under this Section 10.3, then (i) such Party shall reimburse the other Party for reasonable costs and expenses (including reasonable fees and disbursements of counsel) incurred in connection with the collection of such overdue amount and the enforcement by the other Party of its rights under this Section 10.3 and (ii) such Party shall pay to the other Party interest on such overdue amount (for the period commencing as of the date such overdue amount was originally required to be paid and ending on the date such overdue amount is actually paid to the other Party in full) at a rate per annum equal to the “prime rate” (as announced by Bank of America or any successor thereto) in effect on the date such overdue amount was originally required to be paid plus three percent.

(h) The Parties agree that, subject to Section 10.2, the payment of the fees and expenses set forth in this Section 10.3 shall be the sole and exclusive remedy of each Party following a termination of this Agreement under the circumstances described in this Section 10.3, it being understood that in no event shall either Parent or the Company be required to pay the individual fees or damages payable pursuant to this Section 10.3 on more than one occasion. Subject to Section 10.2, following the payment of the fees and expenses set forth in this Section 10.3 by a Party, (i) such Party shall have no further liability to the other Party in connection with or arising out of this Agreement or the termination thereof, any breach of this Agreement by the other Party giving rise to such termination, or the failure of the Contemplated Transactions to be consummated, (ii) no other Party or their respective Affiliates shall be entitled to bring or maintain any other claim, action or proceeding against such Party or seek to obtain any recovery, judgment or damages of any kind against such Party (or any partner, member, stockholder, director, officer, employee, Subsidiary, Affiliate, agent or other Representative of such Party) in connection with or arising out of this Agreement or the termination thereof, any breach by such Party giving rise to such termination or the failure of the Contemplated Transactions to be consummated and (iii) all other Parties and their respective Affiliates shall be precluded from any other remedy against such Party and its Affiliates, at law or in equity or otherwise, in connection with or arising out of this

Agreement or the termination thereof, any breach by such Party giving rise to such termination or the failure of the Contemplated Transactions to be consummated. Each of the Parties acknowledges that (x) the agreements contained in this Section 10.3 are an integral part of the Contemplated Transactions, (y) without these agreements, the Parties would not enter into this Agreement and (z) any amount payable pursuant to this Section 10.3 is not a penalty, but rather is liquidated damages in a reasonable amount that will compensate the Parties in the circumstances in which such amount is payable; provided, however, that nothing in this Section 10.3(h) shall limit the rights of the Parties under Section 11.10.

Section 11. Miscellaneous Provisions.

11.1 Non-Survival of Representations and Warranties. The representations and warranties of the Company, Parent and Merger Sub contained in this Agreement or any certificate or instrument delivered pursuant to this Agreement shall terminate at the Effective Time, and only the covenants that by their terms survive the Effective Time and this Section 11 shall survive the Effective Time.

11.2 Amendment. This Agreement may be amended with the approval of the respective boards of directors of the Company, Merger Sub and Parent at any time (whether before or after the adoption and approval of this Agreement by the Company's stockholders or before or after obtaining the Parent Stockholder Vote); provided, however, that after any such approval of this Agreement by a Party's stockholders, no amendment shall be made which by Law requires further approval of such stockholders without the further approval of such stockholders. This Agreement may not be amended except by an instrument in writing signed on behalf of each of the Company, Merger Sub and Parent.

11.3 Waiver.

(a) Any provision hereof may be waived by the waiving Party solely on such Party's own behalf, without the consent of any other Party. No failure on the part of any Party to exercise any power, right, privilege or remedy under this Agreement, and no delay on the part of any Party in exercising any power, right, privilege or remedy under this Agreement, shall operate as a waiver of such power, right, privilege or remedy; and no single or partial exercise of any such power, right, privilege or remedy shall preclude any other or further exercise thereof or of any other power, right, privilege or remedy.

(b) No Party shall be deemed to have waived any claim arising out of this Agreement, or any power, right, privilege or remedy under this Agreement, unless the waiver of such claim, power, right, privilege or remedy is expressly set forth in a written instrument duly executed and delivered on behalf of such Party and any such waiver shall not be applicable or have any effect except in the specific instance in which it is given.

11.4 Entire Agreement; Counterparts; Exchanges by Electronic Transmission or Facsimile. This Agreement and the other schedules, exhibits, certificates, instruments and agreements referred to in this Agreement constitute the entire agreement and supersede all prior agreements and understandings, both written and oral, among or between any of the Parties with respect to the subject matter hereof and thereof; provided, however, that the Confidentiality Agreement shall not be superseded and shall remain in full force and effect in accordance with its terms. This Agreement may be executed in several counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument. The exchange of a fully executed Agreement (in counterparts or otherwise) by all Parties by facsimile or electronic transmission in PDF format shall be sufficient to bind the Parties to the terms and conditions of this Agreement.

11.5 Applicable Law; Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the Laws of the State of Delaware, regardless of the Laws that might otherwise govern under applicable principles of conflicts of laws. In any action or proceeding between any of the Parties arising out of or relating to this Agreement or any of the Contemplated Transactions, each of the Parties: (a) irrevocably and unconditionally consents and submits to the exclusive jurisdiction and venue of the Court of Chancery of the State of Delaware

or, to the extent such court does not have subject matter jurisdiction, the Superior Court of the State of Delaware or the United States District Court for the District of Delaware, (b) agrees that all claims in respect of such action or proceeding shall be heard and determined exclusively in accordance with clause (a) of this Section 11.5, (c) waives any objection to laying venue in any such action or proceeding in such courts, (d) waives any objection that such courts are an inconvenient forum or do not have jurisdiction over any Party, (e) agrees that service of process upon such Party in any such action or proceeding shall be effective if notice is given in accordance with Section 11.7 of this Agreement and (f) irrevocably and unconditionally waives the right to trial by jury.

11.6 Assignability. This Agreement shall be binding upon, and shall be enforceable by and inure solely to the benefit of, the Parties and their respective successors and permitted assigns; provided, however, that neither this Agreement nor any of a Party's rights or obligations hereunder may be assigned or delegated by such Party without the prior written consent of the other Party, and any attempted assignment or delegation of this Agreement or any of such rights or obligations by such Party without the other Party's prior written consent shall be void and of no effect.

11.7 Notices. All notices and other communications hereunder shall be in writing and shall be deemed to have been duly delivered and received hereunder (a) one (1) Business Day after being sent for next Business Day delivery, fees prepaid, via a reputable international overnight courier service, (b) upon delivery in the case of delivery by hand or (c) on the date delivered in the place of delivery if sent by email or facsimile (with a written or electronic confirmation of delivery) prior to 6:00 p.m. (New York City time), otherwise on the next succeeding Business Day, in each case to the intended recipient as set forth below:

if to Parent or Merger Sub:

Neoleukin Therapeutics, Inc.
188 East Blaine Street, Suite 450
Seattle, WA 98102
Attention: Donna Cochener
Email: [*]

with a copy to (which shall not constitute notice):

Fenwick & West LLP
801 California St
Mountain View, CA 94041
Attention: David K. Michaels; Jeremy R. Delman
Email: dmichaels@fenwick.com; jdelman@fenwick.com

if to the Company:

Neurogene Inc.
535 W 24th Street, 5th Floor
New York, NY 10011
Attention: Christine Mikail, J.D.
Email: [*]

with a copy to (which shall not constitute notice):

Gibson, Dunn & Crutcher LLP
555 Mission Street, Suite 3000
San Francisco, CA 94105
Attention: Ryan A. Murr, Branden C. Berns
Email: rmurr@gibsondunn.com, bberns@gibsondunn.com

11.8 Cooperation. Each Party agrees to cooperate fully with the other Party and to execute and deliver such further documents, certificates, agreements and instruments and to take such other actions as may be reasonably requested by the other Party to evidence or reflect the Contemplated Transactions and to carry out the intent and purposes of this Agreement.

11.9 Severability. Any term or provision of this Agreement that is invalid or unenforceable in any situation in any jurisdiction shall not affect the validity or enforceability of the remaining terms and provisions of this Agreement or the validity or enforceability of the offending term or provision in any other situation or in any other jurisdiction. If a final judgment of a court of competent jurisdiction declares that any term or provision of this Agreement is invalid or unenforceable, the Parties agree that the court making such determination shall have the power to limit such term or provision, to delete specific words or phrases or to replace such term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision, and this Agreement shall be valid and enforceable as so modified. In the event such court does not exercise the power granted to it in the prior sentence, the Parties agree to replace such invalid or unenforceable term or provision with a valid and enforceable term or provision that will achieve, to the extent possible, the economic, business and other purposes of such invalid or unenforceable term or provision.

11.10 Other Remedies; Specific Performance. Except as otherwise provided herein, any and all remedies herein expressly conferred upon a Party will be deemed cumulative with and not exclusive of any other remedy conferred hereby, or by law or equity upon such Party, and the exercise by a Party of any one remedy will not preclude the exercise of any other remedy. The Parties agree that irreparable damage for which monetary damages, even if available, would not be an adequate remedy, would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms (including failing to take such actions as are required of it hereunder to consummate this Agreement) or were otherwise breached. It is accordingly agreed that the Parties shall be entitled to an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions hereof in the Court of Chancery of the State of Delaware or, to the extent such court does not have subject matter jurisdiction, the Superior Court of the State of Delaware or the United States District Court for the District of Delaware, this being in addition to any other remedy to which they are entitled at law or in equity, and each of the Parties waives any bond, surety or other security that might be required of any other Party with respect thereto. Each of the Parties further agrees that it will not oppose the granting of an injunction, specific performance or other equitable relief on the basis that any other Party has an adequate remedy at law or that any award of specific performance is not an appropriate remedy for any reason at law or in equity.

11.11 No Third-Party Beneficiaries. Nothing in this Agreement, express or implied, is intended to or shall confer upon any Person (other than the Parties and the D&O Indemnified Parties to the extent of their respective rights pursuant to Section 6.8) any right, benefit or remedy of any nature whatsoever under or by reason of this Agreement.

[*Remainder of page intentionally left blank*]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

NEOLEUKIN THERAPEUTICS, INC.

By: /s/ Donna M. Cochener
Name: Donna M. Cochener
Title: Interim Chief Executive Officer

PROJECT NORTH MERGER SUB, INC.

By: /s/ Donna M. Cochener
Name: Donna M. Cochener
Title: Chief Executive Officer and President

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

NEUROGENE INC.

By: /s/ Christine Mikail
Name: Christine Mikail
Title: President and Chief Executive Officer

Exhibit A-1

FORM OF PARENT STOCKHOLDER SUPPORT AGREEMENT

This Support Agreement (this "Agreement") is made and entered into as of July 17, 2023, by and among Neurogene Inc., a Delaware corporation (the "Company"), Neoleukin Therapeutics, Inc., a Delaware corporation ("Parent"), and the undersigned stockholder (the "Stockholder") of Parent. Capitalized terms used herein but not otherwise defined shall have the respective meanings ascribed to such terms in the Merger Agreement.

RECITALS

WHEREAS, concurrently with the execution and delivery hereof, Parent, the Company and Project North Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of Parent (the "Merger Sub"), have entered into an Agreement and Plan of Merger (as such agreement may be amended or supplemented from time to time pursuant to the terms thereof, the "Merger Agreement"), pursuant to which Merger Sub will merge with and into the Company, with the Company surviving the merger as the surviving corporation and a wholly owned subsidiary of Parent (the "Merger") upon the terms and subject to the conditions set forth in the Merger Agreement.

WHEREAS, as of the date hereof, the Stockholder is the beneficial owner (as defined in Rule 13d-3 under the Exchange Act) of such number of shares of Parent Common Stock as indicated in Appendix A.

WHEREAS, as an inducement to the willingness of the Company to enter into the Merger Agreement, the Company has required that the Stockholder enter into this Agreement.

NOW, THEREFORE, intending to be legally bound, the parties hereby agree as follows:

1. Certain Definitions. Capitalized terms used but not otherwise defined herein shall have the meanings ascribed thereto in the Merger Agreement. For all purposes of this Agreement, the following terms shall have the following respective meanings:

(a) "Constructive Sale" means, with respect to any security, a short sale with respect to such security, entering into or acquiring a derivative contract with respect to such security, entering into or acquiring a futures or forward contract to deliver such security or entering into any other hedging or other derivative transaction that has the effect of either directly or indirectly materially changing the economic benefits or risks of ownership of such security.

(b) "Parent Stockholder Matters" means the approval of (i) the Merger Agreement and thereby of the Contemplated Transactions and against any competing proposals being considered at the meeting pursuant to the terms of the Merger Agreement, (ii) an amendment to the Parent's certificate of incorporation to, if deemed appropriate by the Parties, (A) effect a Nasdaq Reverse Split and/or (B) increase the number of authorized shares of Parent Common Stock, (iii) an increase in the number of shares available for issuance under the existing Parent Stock Plan by an amount directed by the Company and/or approval of a new Parent equity incentive plan, with the form of such Parent equity incentive plan and number of shares of Parent Common Stock available for issuance under such plan to be determined by the Company (subject in each case to the consent of Parent, which consent shall not be unreasonably withheld, conditioned or delayed), and (iv) a new Parent employee stock purchase plan, with the form of such Parent employee stock purchase plan and number of shares of Parent Common Stock available for issuance under such plan to be determined by the Company (subject to the consent of Parent, which consent shall not be unreasonably withheld, conditioned or delayed).

(c) "Shares" means (i) all shares of Parent Common Stock owned, beneficially or of record, by the Stockholder as of the date hereof, and (ii) all additional shares of Parent Common Stock acquired by the Stockholder, beneficially or of record, during the period commencing with the execution and delivery of this Agreement and expiring on the Closing Date.

(c) "Pre-Funded Warrant" means a warrant entitling the Stockholder to purchase shares of Parent Common Stock.

(d) "Transfer" or "Transferred" means, with respect to any security, the direct or indirect assignment, sale, transfer, tender, exchange, pledge or hypothecation, or the grant, creation or suffrage of a lien, security interest or encumbrance in or upon, or the gift, grant or placement in trust, or the Constructive Sale or other disposition of such security (including transfers by testamentary or intestate succession, by domestic relations order or other court order, or otherwise by operation of law) or any right, title or interest therein (including any right or power to vote to which the holder thereof may be entitled, whether such right or power is granted by proxy or otherwise), or the record or beneficial ownership thereof, the offer to make such a sale, transfer, Constructive Sale or other disposition, and each agreement, arrangement or understanding, whether or not in writing, to effect any of the foregoing.

2. Transfer and Voting Restrictions. The Stockholder covenants to the Company as follows:

(a) Except as otherwise permitted by Section 2(c), during the period commencing with the execution and delivery of this Agreement and expiring on the Expiration Date, the Stockholder shall not Transfer any of the Stockholder's Shares or Pre-Funded Warrants, or publicly announce its intention to Transfer any of its Shares or Pre-Funded Warrants.

(b) Except as otherwise permitted by this Agreement or otherwise required by order of a court of competent jurisdiction or a Governmental Authority, the Stockholder will not commit any act that would restrict the Stockholder's legal power, authority and right to vote all of the Shares held by the Stockholder or otherwise prevent or disable the Stockholder from performing any of his, her or its obligations under this Agreement. Without limiting the generality of the foregoing, except for this Agreement and as otherwise permitted by this Agreement, the Stockholder shall not enter into any voting agreement with any person or entity with respect to any of the Stockholder's Shares, grant any person or entity any proxy (revocable or irrevocable) or power of attorney with respect to any of the Shares, deposit any Shares in a voting trust or otherwise enter into any agreement or arrangement with any person or entity limiting or affecting the Stockholder's legal power, authority or right to vote the Stockholder's Shares in favor of the Parent Stockholder Matters and against any competing proposals.

(c) Notwithstanding anything else herein to the contrary, the Stockholder may, at any time, Transfer Shares or Pre-Funded Warrants (i) by will or other testamentary document or by intestacy, (ii) to any investment fund or other entity controlled or managed by the Stockholder or the investment adviser of the general partner of the Stockholder, or an entity under common control or management with such Stockholder (in each case, directly or indirectly), (iii) to any member of the Stockholder's immediate family (or, if the Stockholder is a corporation, partnership or other entity, to an immediate family member of a beneficial owner of the Shares or Pre-Funded Warrants held by the Stockholder), (iv) to any trust or other similar legal entity for the direct or indirect benefit of the Stockholder or the immediate family of the Stockholder (or, if the Stockholder is a corporation, partnership or other entity, for the direct or indirect benefit of an immediate family member of a beneficial owner of the Shares or Pre-Funded Warrants held by the Stockholder) or otherwise for estate tax or estate planning purposes, (v) in the case of a Stockholder who is not a natural person, by pro rata distributions from the Stockholder to its members, partners, or shareholders pursuant to the Stockholder's organizational documents; provided, that in the cases of clauses (i)-(v), (x) such Transferred Shares or Pre-Funded Warrants shall continue to be bound by this Agreement, (y) the applicable direct transferee (if any) of such Transferred Shares or Pre-Funded Warrants shall have executed and delivered to Parent and the Company a support agreement substantially identical to this Agreement upon consummation of the Transfer and (z) no such Transfer will necessitate the filing of a Form 4 reporting such Transfer or (vi) to the extent required by applicable Law.

3. Agreement to Vote Shares. The Stockholder covenants to the Company as follows:

(a) Until the Expiration Date, at any meeting of the stockholders of Parent, however called, and at every adjournment or postponement thereof, and on every action or approval by written consent of the stockholders of Parent, the Stockholder shall be present (in person or by proxy) and vote, or exercise its right to consent with respect to, all Shares held by the Stockholder (i) in favor of the Parent Stockholder Matters and (ii) against any Acquisition Proposal.

(b) If the Stockholder is the beneficial owner, but not the record holder, of Shares, the Stockholder agrees to take all actions necessary to cause the record holder and any nominees to be present (in person or by proxy) and vote all the Stockholder's Shares in accordance with this Section 3.

(c) In the event of a stock split, stock dividend or distribution, or any change in the capital stock of Parent by reason of any split-up, reverse stock split, recapitalization, combination, reclassification, reincorporation, exchange of shares or the like, the term "Shares" shall be deemed to refer to and include such shares as well as all such stock dividends and distributions and any securities into which or for which any or all of such shares may be changed or exchanged or which are received in such transaction.

4. Action in Stockholder Capacity Only. The Stockholder is entering into this Agreement solely in the Stockholder's capacity as a record holder and beneficial owner, as applicable, of its Shares and not in the Stockholder's capacity as a director or officer of Parent. Nothing herein shall limit or affect the Stockholder's ability to act as an officer or director of Parent.

5. Irrevocable Proxy. The Stockholder hereby revokes (or agrees to cause to be revoked) any proxies that the Stockholder has heretofore granted with respect to its Shares. In the event and to the extent that the Stockholder fails to vote the Shares in accordance with Section 3 at any applicable meeting of the stockholders of Parent or pursuant to any applicable written consent of the stockholders of Parent, the Stockholder shall be deemed to have irrevocably granted to, and appointed, the Company, and any individual designated in writing by the Company, and each of them individually, as his, her or its proxy and attorney-in-fact (with full power of substitution), for and in its name, place and stead, to vote his, her or its Shares in any action by written consent of the stockholders of Parent or at any meeting of the stockholders of Parent called with respect to any of the matters specified in, and in accordance and consistent with, Section 3 of this Agreement. The Company agrees not to exercise the proxy granted herein for any purpose other than the purposes described in this Agreement. Except as otherwise provided for herein (including the next sentence), the Stockholder hereby affirms that the irrevocable proxy is coupled with an interest and may under no circumstances be revoked and that such irrevocable proxy is executed and intended to be irrevocable. Notwithstanding any other provisions of this Agreement, the irrevocable proxy granted hereunder shall automatically terminate upon the termination of this Agreement.

6. No Solicitation. Subject to Section 4, the Stockholder agrees not to, directly or indirectly, including through any of its officers, directors or agents, (a) solicit, seek or initiate or knowingly take any action to facilitate or encourage, any offers, inquiries or the making of any proposal or offer that constitutes, or could reasonably be expected to lead to, any Acquisition Proposal or Acquisition Inquiry or (b) enter into, continue or otherwise participate or engage in any discussions or negotiations regarding any Acquisition Proposal, or furnish to any person any non-public information or afford any person, other than Parent or the Company, as applicable, access to such party's property, books or records (except as required by applicable Law or pursuant to a request by a Governmental Authority) in connection with, any Acquisition Proposal; provided, however, that nothing in this Section 6 shall prevent the Stockholder from referring a person to this Section 6 or to the Merger Agreement.

7. Documentation and Information. The Stockholder shall permit and hereby authorizes Parent and the Company to publish and disclose in all documents and schedules filed with the SEC, and any press release or other disclosure document that Parent or the Company reasonably determines to be necessary in connection with the Merger and any of the Contemplated Transactions, a copy of this Agreement, the Stockholder's identity and ownership of the Shares and Pre-Funded Warrants and the nature of the Stockholder's commitments and obligations under this Agreement. Each of Parent and the Company is an intended third-party beneficiary of this Section 7.

8. No Exercise of Appraisal Rights; Waivers. The Stockholder hereby irrevocably and unconditionally (a) waives, and agrees to cause to be waived and to prevent the exercise of, any rights of appraisal, any dissenters' rights and any similar rights (including any notice requirements related thereto) relating to the Merger that Stockholder may have by virtue of, or with respect to, any Shares (including all rights under Section 262 of the DGCL) and (b) agrees that the Stockholder will not bring, commence, institute, maintain, prosecute or voluntarily aid or participate in any action, claim, suit or cause of action, in law or in equity, in any court or

before any Governmental Authority, which (i) challenges the validity of or seeks to enjoin the operation of any provision of this Agreement or (ii) alleges that the execution and delivery of this Agreement by the Stockholder, or the approval of the Merger Agreement by the Parent Board, breaches any fiduciary duty of the Parent Board or any member thereof; provided, that the Stockholder may defend against, contest or settle any such action, claim, suit or cause of action brought against the Stockholder that relates solely to the Stockholder's capacity as a director, officer or securityholder of the Parent.

9. Representations and Warranties of the Stockholder. The Stockholder hereby represents and warrants to the Company as follows:

(a) The Stockholder, if not a natural person, is duly incorporated or organized, as applicable, validly existing and in good standing under the laws of its jurisdiction of incorporation or organization. (i) The Stockholder is the beneficial or record owner of the shares of Parent Common Stock indicated in Appendix A (each of which shall be deemed to be "held" by the Stockholder for purposes of Section 3 unless otherwise expressly stated with respect to any shares in Appendix A), free and clear of any and all Encumbrances (except for any Encumbrance that may be imposed pursuant to any lock-up agreement entered into by and among the Stockholder, the Company and Parent); and (ii) the Stockholder does not beneficially own any securities of Parent other than the shares of Parent Common Stock and rights to purchase shares Parent Common Stock, including the Pre-Funded Warrants, set forth in Appendix A.

(b) Except as otherwise provided in this Agreement, the Stockholder has full power and authority to (i) make, enter into and carry out the terms of this Agreement and (ii) vote all of its Shares in the manner set forth in this Agreement without the consent or approval of, or any other action on the part of, any other person or entity (including any Governmental Authority). Without limiting the generality of the foregoing, the Stockholder has not entered into any voting agreement (other than this Agreement) with any person with respect to any of the Stockholder's Shares, granted any person any proxy (revocable or irrevocable) or power of attorney with respect to any of the Stockholder's Shares, deposited any of the Stockholder's Shares in a voting trust or entered into any arrangement or agreement with any person limiting or affecting the Stockholder's legal power, authority or right to vote the Stockholder's Shares on any matter.

(c) This Agreement has been duly and validly executed and delivered by the Stockholder and (assuming the due authorization, execution and delivery by the other parties hereto) constitutes a valid and binding agreement of the Stockholder enforceable against the Stockholder in accordance with its terms, subject to the Enforceability Exceptions. The execution and delivery of this Agreement by the Stockholder and the performance by the Stockholder of the agreements and obligations hereunder will not result in any breach or violation of or be in conflict with or constitute a default under any term of any Contract or if applicable any provision of an organizational document (including a certificate of incorporation) to or by which the Stockholder is a party or bound, or any applicable law to which the Stockholder (or any of the Stockholder's assets) is subject or bound, except for any such breach, violation, conflict or default which, individually or in the aggregate, would not reasonably be expected to materially impair or adversely affect the Stockholder's ability to perform its obligations under this Agreement.

(d) The execution, delivery and performance of this Agreement by the Stockholder do not and will not require any consent, approval, authorization or permit of, action by, filing with or notification to, any Governmental Authority, except for any such consent, approval, authorization, permit, action, filing or notification the failure of which to make or obtain, individually or in the aggregate, has not and would not materially impair the Stockholder's ability to perform its obligations under this Agreement.

(e) The Stockholder has had the opportunity to review the Merger Agreement and this Agreement with counsel of the Stockholder's own choosing. The Stockholder has had an opportunity to review with its own tax advisors the tax consequences of the Merger and the Contemplated Transactions. The Stockholder understands that it must rely solely on its advisors and not on any statements or representations made by Parent, the Company or any of their respective agents or representatives with respect to the tax consequences of the Merger and the Contemplated Transactions. The Stockholder understands that such Stockholder (and not Parent, the Company or the Surviving Corporation) shall be responsible for such Stockholder's tax liability that may arise as a result of

the Merger or the Contemplated Transactions. The Stockholder understands and acknowledges that the Company, Parent and Merger Sub are entering into the Merger Agreement in reliance upon the Stockholder's execution, delivery and performance of this Agreement.

(f) With respect to the Stockholder, as of the date hereof, there is no action, suit, investigation or proceeding pending against, or, to the knowledge of the Stockholder, threatened against, the Stockholder or any of the Stockholder's properties or assets (including the Shares) that would reasonably be expected to prevent or materially delay or impair the ability of the Stockholder to perform its obligations hereunder or to consummate the transactions contemplated hereby.

10. Certain Agreements. The Stockholder, by this Agreement, and with respect to such Stockholder's Shares, severally and not jointly, hereby agrees to terminate, subject to the occurrence of, and effective immediately prior to, the Effective Time each agreement between the Stockholder, on the one hand, and Parent, on the other hand, providing for registration rights, redemption rights, put rights, purchase rights, information rights, rights to consult with and advise management, inspection rights, preemptive rights, board of directors observer rights or rights to receive information delivered to the board of directors or other similar rights not generally available to stockholders of Parent, but excluding, for the avoidance of doubt, any rights the Stockholder may have that relate to any indemnification, commercial, development or employment agreements or arrangements between such Stockholder and Parent or its subsidiary, which shall survive in accordance with their terms. The Stockholder hereby terminates and waives all rights of first refusal, redemption rights and rights of notice of the Merger and the other transactions contemplated by the Merger Agreement, effective as of immediately prior to, and contingent upon, the Effective Time.

11. Termination. This Agreement shall terminate and shall cease to be of any further force or effect as of the earliest of (a) such date and time as the Merger Agreement shall have been terminated pursuant to the terms thereof, (b) the Effective Time and (c) such date and time that this Agreement is terminated upon the written agreement of the Stockholder, the Company and Parent (the "Expiration Date"); provided, however, that (x) Section 12 shall survive the termination of this Agreement, and (y) the termination of this Agreement shall not relieve any party hereto from any liability for any material and willful breach of this Agreement prior to the Effective Time.

12. Miscellaneous Provisions.

(a) Amendments. No amendment of this Agreement shall be effective against any party unless it shall be in writing and signed by each of the parties hereto.

(b) Entire Agreement; Counterparts; Exchanges by Electronic Transmission or Facsimile. This Agreement constitutes the entire agreement between the parties to this Agreement and supersedes all other prior agreements, arrangements and understandings, both written and oral, among the parties with respect to the subject matter hereof. This Agreement may be executed in several counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument. The exchange of a fully executed Agreement (in counterparts or otherwise) by all parties by facsimile or electronic transmission in PDF format shall be sufficient to bind the parties to the terms and conditions of this Agreement.

(c) Applicable Law; Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, regardless of the laws that might otherwise govern under applicable principles of conflicts of laws. In any action or proceeding between any of the parties arising out of or relating to this Agreement, each of the parties: (i) irrevocably and unconditionally consents and submits to the exclusive jurisdiction and venue of the Court of Chancery of the State of Delaware or, to the extent such court does not have subject matter jurisdiction, the Superior Court of the State of Delaware or the United States District Court for the District of Delaware, (ii) agrees that all claims in respect of such action or proceeding shall be heard and determined exclusively in accordance with clause (a) of this Section 12(c), (iii) waives any objection to laying venue in any such action or proceeding in such courts, (iv) waives any objection that such courts are an inconvenient forum or do not have jurisdiction over any party, (v) agrees that service of process upon such party in any such action or proceeding shall be effective if notice is given in accordance with Section 12(h) of this Agreement and (vi) irrevocably and unconditionally waives the right to trial by jury.

(d) Assignment. This Agreement shall be binding upon, and shall be enforceable by and inure solely to the benefit of, the parties and their respective successors and permitted assigns; provided, however, that neither this Agreement nor any of a party's rights or obligations hereunder may be assigned or delegated by such party without the prior written consent of the other party (in whole or in part, whether by operation of law or otherwise), and any attempted or purported assignment or delegation of this Agreement or any of such rights or obligations by such party without the other party's prior written consent shall be void and of no effect.

(e) No Third Party Rights. This Agreement is not intended to, and shall not, confer upon any other person any rights or remedies hereunder other than the parties hereto to the extent expressly set forth herein.

(f) Severability. Any term or provision of this Agreement that is invalid or unenforceable in any situation in any jurisdiction shall not affect the validity or enforceability of the remaining terms and provisions of this Agreement or the validity or enforceability of the offending term or provision in any other situation or in any other jurisdiction. If a final judgment of a court of competent jurisdiction declares that any term or provision of this Agreement is invalid or unenforceable, the parties agree that the court making such determination shall have the power to limit such term or provision, to delete specific words or phrases or to replace such term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision, and this Agreement shall be valid and enforceable as so modified. In the event such court does not exercise the power granted to it in the prior sentence, the parties agree to replace such invalid or unenforceable term or provision with a valid and enforceable term or provision that will achieve, to the extent possible, the economic, business and other purposes of such invalid or unenforceable term or provision.

(g) Specific Performance. Except as otherwise provided herein, any and all remedies herein expressly conferred upon a party will be deemed cumulative with and not exclusive of any other remedy conferred hereby, or by law or equity upon such party, and the exercise by a party of any one remedy will not preclude the exercise of any other remedy. The parties agree that irreparable damage for which monetary damages, even if available, would not be an adequate remedy, would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms (including failing to take such actions as are required of it hereunder to consummate this Agreement) or were otherwise breached. It is accordingly agreed that the parties shall be entitled to an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions hereof in any court of the United States or any state having jurisdiction, this being in addition to any other remedy to which they are entitled at law or in equity, and each of the parties waives any bond, surety or other security that might be required of any other party with respect thereto. Each of the parties further agrees that it will not oppose the granting of an injunction, specific performance or other equitable relief on the basis that any other party has an adequate remedy at law or that any award of specific performance is not an appropriate remedy for any reason at law or in equity.

(h) Notices. All notices and other communications hereunder shall be in writing and shall be deemed duly delivered (i) one (1) Business Day after being sent for next Business Day delivery, fees prepaid, via a reputable international overnight courier service, (ii) upon delivery in the case of delivery by hand or (iii) on the date delivered in the place of delivery if sent by email or facsimile (with a written or electronic confirmation of delivery) prior to 6:00 p.m. (New York City time), otherwise on the next succeeding Business Day, (x) if to the Company or Parent, to the address, electronic mail address or facsimile provided in the Merger Agreement, including to the persons designated therein to receive copies; and/or (y) if to the Stockholder, to the Stockholder's address, electronic mail address or facsimile shown below the Stockholder's signature to this Agreement.

(i) Confidentiality. Except to the extent required by applicable Law or regulation, the Stockholder shall hold any non-public information regarding this Agreement, the Merger Agreement and the Merger in strict confidence and shall not divulge any such information to any third person until Parent has publicly disclosed its entry into the Merger Agreement and this Agreement; provided, however, that the Stockholder may disclose such information to its Affiliates, partners, members, stockholders, parents, subsidiaries, attorneys, accountants, consultants, trustees, beneficiaries and other representatives (provided, that such Persons are subject to

confidentiality obligations at least as restrictive as those contained herein). Neither the Stockholder nor any of its Affiliates (other than Parent, whose actions shall be governed by the Merger Agreement), shall issue or cause the publication of any press release or other public announcement with respect to this Agreement, the Merger, the Merger Agreement or the other transactions contemplated hereby or thereby without the prior written consent of the Company and Parent, except as may be required by applicable Law in which circumstance such announcing party shall make reasonable efforts to consult with the Company and Parent to the extent practicable. The Company is an intended third-party beneficiary of this Section 12(i).

(j) Interpretation. When reference is made in this Agreement to a Section or Appendix, such reference shall be to a Section of or Appendix to this Agreement, unless otherwise indicated. The headings contained in this Agreement are for convenience of reference only and shall not affect in any way the meaning or interpretation of this Agreement. The language used in this Agreement shall be deemed to be the language chosen by the parties hereto to express their mutual intent, and no rule of strict construction shall be applied against any party. Whenever the context may require, any pronouns used in this Agreement shall include the corresponding masculine, feminine or neuter forms, and the singular form of nouns and pronouns shall include the plural, and vice versa. Any reference to any federal, state, local or foreign statute or law shall be deemed also to refer to all rules and regulations promulgated thereunder, unless the context requires otherwise. Whenever the words “include,” “includes” or “including” are used in this Agreement, they shall be deemed to be followed by the words “without limitation.”

[Remainder of Page Left Intentionally Blank]

IN WITNESS WHEREOF, the undersigned have caused this Agreement to be duly executed as of the date first above written.

COMPANY:
Neurogene Inc.

By: _____
Name:
Title:

PARENT:
Neoleukin Therapeutics, Inc.

By: _____
Name:
Title:

[STOCKHOLDER],
in his/her capacity as the Stockholder:

Signature: _____

Address: _____

_____

_____

Exhibit A-2

FORM OF COMPANY STOCKHOLDER SUPPORT AGREEMENT

This Support Agreement (this "Agreement") is made and entered into as of July 17, 2023, by and among Neurogene Inc., a Delaware corporation (the "Company"), Neoleukin Therapeutics, Inc., a Delaware corporation ("Parent"), and the undersigned stockholder (the "Stockholder") of the Company. Capitalized terms used herein but not otherwise defined shall have the respective meanings ascribed to such terms in the Merger Agreement.

RECITALS

WHEREAS, concurrently with the execution and delivery hereof, Parent, the Company and Project North Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of Parent (the "Merger Sub"), have entered into an Agreement and Plan of Merger (as such agreement may be amended or supplemented from time to time pursuant to the terms thereof, the "Merger Agreement"), pursuant to which Merger Sub will merge with and into the Company, with the Company surviving the merger as the surviving corporation and a wholly owned subsidiary of Parent (the "Merger") upon the terms and subject to the conditions set forth in the Merger Agreement.

WHEREAS, as of the date hereof, the Stockholder is the beneficial owner (as defined in Rule 13d-3 under the Exchange Act) of such number of shares of Company Capital Stock as indicated in Appendix A.

WHEREAS, as an inducement to the willingness of Parent to enter into the Merger Agreement, Parent has required that the Stockholder enter into this Agreement.

NOW, THEREFORE, intending to be legally bound, the parties hereby agree as follows:

1. Certain Definitions. Capitalized terms used but not otherwise defined herein shall have the meanings ascribed thereto in the Merger Agreement. For all purposes of this Agreement, the following terms shall have the following respective meanings:

(a) "Constructive Sale" means, with respect to any security, a short sale with respect to such security, entering into or acquiring a derivative contract with respect to such security, entering into or acquiring a futures or forward contract to deliver such security or entering into any other hedging or other derivative transaction that has the effect of either directly or indirectly materially changing the economic benefits or risks of ownership of such security.

(b) "Shares" means (i) all shares of Company Capital Stock beneficially owned by the Stockholder as of the date hereof, and (ii) all additional shares of Company Capital Stock acquired and beneficially owned by the Stockholder during the period commencing with the execution and delivery of this Agreement and expiring on the Closing Date.

(c) "Transfer" or "Transferred" means, with respect to any security, the direct or indirect assignment, sale, transfer, tender, exchange, pledge or hypothecation, or the grant, creation or suffrage of a lien, security interest or encumbrance in or upon, or the gift, grant or placement in trust, or the Constructive Sale or other disposition of such security (including transfers by testamentary or intestate succession, by domestic relations order or other court order, or otherwise by operation of law) or any right, title or interest therein (including any right or power to vote to which the holder thereof may be entitled, whether such right or power is granted by proxy or otherwise), or the beneficial ownership thereof, the offer to make such a sale, transfer, Constructive Sale or other disposition, and each agreement, arrangement or understanding, whether or not in writing, to effect any of the foregoing.

2. Transfer and Voting Restrictions. The Stockholder covenants to Parent as follows:

(a) Except as otherwise permitted by Section 2(c), during the period commencing with the execution and delivery of this Agreement and expiring on the Expiration Date, the Stockholder shall not Transfer any of the Stockholder's Shares, or publicly announce its intention to Transfer any of its Shares.

(b) Except as otherwise permitted by this Agreement or otherwise required by order of a court of competent jurisdiction or a Governmental Authority, the Stockholder will not commit any act that would restrict the Stockholder's legal power, authority and right to vote all of the Shares held by the Stockholder or otherwise prevent or disable the Stockholder from performing any of his, her or its obligations under this Agreement. Without limiting the generality of the foregoing, except for this Agreement, the Second Amended and Restated Voting Agreement of the Company, dated as of March 4, 2022 (the "Voting Agreement") and as otherwise permitted by this Agreement, the Stockholder shall not enter into any voting agreement with any person or entity with respect to any of the Stockholder's Shares, grant any person or entity any proxy (revocable or irrevocable) or power of attorney with respect to any of the Shares, deposit any Shares in a voting trust or otherwise enter into any agreement or arrangement with any person or entity limiting or affecting the Stockholder's legal power, authority or right to execute and deliver the Company Stockholder Written Consent.

(c) Notwithstanding anything else herein to the contrary, the Stockholder may, at any time, Transfer Shares (i) by will or other testamentary document or by intestacy, (ii) to any investment fund or other entity controlled or managed by the Stockholder or the investment adviser of the general partner of the Stockholder, or an entity under common control or management with such Stockholder (in each case, directly or indirectly), (iii) to any member of the Stockholder's immediate family (or, if the Stockholder is a corporation, partnership or other entity, to an immediate family member of a beneficial owner of the Shares held by the Stockholder), (iv) to any trust or other similar legal entity for the direct or indirect benefit of the Stockholder or the immediate family of the Stockholder (or, if the Stockholder is a corporation, partnership or other entity, for the direct or indirect benefit of an immediate family member of a beneficial owner of the Shares held by the Stockholder) or otherwise for estate tax or estate planning purposes, (v) in the case of a Stockholder who is not a natural person, by pro rata distributions from the Stockholder to its members, partners, or shareholders pursuant to the Stockholder's organizational documents; provided, that in the cases of clauses (i)-(v), (x) such Transferred Shares shall continue to be bound by this Agreement,(y) the applicable direct transferee (if any) of such Transferred Shares shall have executed and delivered to Parent and the Company a support agreement substantially identical to this Agreement upon consummation of the Transfer and (z) no such Transfer will necessitate the filing of a Form 4 reporting such Transfer or (vi) to the extent required by applicable Law.

3. Agreement to Vote Shares. The Stockholder covenants to the Company as follows:

(a) Until the Expiration Date, at any meeting of the stockholders of the Company, however called, and at every adjournment or postponement thereof, and on every action or approval by written consent of the stockholders of the Company, the Stockholder shall be present (in person or by proxy) and vote, or exercise its right to consent with respect to, all Shares held by the Stockholder (i) in favor of the adoption and approval of the Merger Agreement, (ii) in favor of approval of the Contemplated Transactions, and (iii) against any Acquisition Proposal.

(b) If the Stockholder is not the record holder of Shares, the Stockholder agrees to take all actions necessary to cause the record holder and any nominees to be present (in person or by proxy) and vote all the Stockholder's Shares in accordance with this Section 3.

(c) In the event of a stock split, stock dividend or distribution, or any change in the capital stock of the Company by reason of any split-up, reverse stock split, recapitalization, combination, reclassification, reincorporation, exchange of shares or the like, the term "Shares" shall be deemed to refer to and include such shares as well as all such stock dividends and distributions and any securities into which or for which any or all of such shares may be changed or exchanged or which are received in such transaction.

4. Action in Stockholder Capacity Only. The Stockholder is entering into this Agreement solely in the Stockholder's capacity as the beneficial owner of its Shares and not in the Stockholder's capacity as a director or officer of the Company. Nothing herein shall limit or affect the Stockholder's ability to act as an officer or director of the Company.

5. Irrevocable Proxy. The Stockholder hereby revokes (or agrees to cause to be revoked) any proxies that the Stockholder has heretofore granted with respect to its Shares. In the event and to the extent that the Stockholder

fails to vote the Shares in accordance with Section 3 at any applicable meeting of the stockholders of the Company or pursuant to any applicable written consent of the stockholders of the Company, the Stockholder shall be deemed to have irrevocably granted to, and appointed, Parent, and any individual designated in writing by Parent, and each of them individually, as his, her or its proxy and attorney-in-fact (with full power of substitution), for and in its name, place and stead, to vote his, her or its Shares in any action by written consent of the stockholders of the Company or at any meeting of the stockholders of the Company called with respect to any of the matters specified in, and in accordance and consistent with, Section 3 of this Agreement. Parent agrees not to exercise the proxy granted herein for any purpose other than the purposes described in this Agreement. Except as otherwise provided for herein (including the next sentence), the Stockholder hereby affirms that the irrevocable proxy is coupled with an interest and may under no circumstances be revoked and that such irrevocable proxy is executed and intended to be irrevocable. Notwithstanding any other provisions of this Agreement, the irrevocable proxy granted hereunder shall automatically terminate upon the termination of this Agreement.

6. No Solicitation. Subject to Section 4, the Stockholder agrees not to, directly or indirectly, including through any of its officers, directors or agents, (a) solicit, seek or initiate or knowingly take any action to facilitate or encourage, any offers, inquiries or the making of any proposal or offer that constitutes, or could reasonably be expected to lead to, any Acquisition Proposal or Acquisition Inquiry or (b) enter into, continue or otherwise participate or engage in any discussions or negotiations regarding any Acquisition Proposal, or furnish to any person any non-public information or afford any person, other than Parent or the Company, as applicable, access to such party's property, books or records (except as required by applicable Law or pursuant to a request by a Governmental Authority) in connection with, any Acquisition Proposal; provided, however, that nothing in this Section 6 shall prevent the Stockholder from referring a person to this Section 6 or to the Merger Agreement.

7. Documentation and Information. The Stockholder shall permit and hereby authorizes Parent and the Company to publish and disclose in all documents and schedules filed with the SEC, and any press release or other disclosure document that Parent or the Company reasonably determines to be necessary in connection with the Merger and any of the Contemplated Transactions, a copy of this Agreement, the Stockholder's identity and ownership of the Shares and the nature of the Stockholder's commitments and obligations under this Agreement. Each of Parent and the Company is an intended third-party beneficiary of this Section 7.

8. No Exercise of Appraisal Rights; Waivers. The Stockholder hereby irrevocably and unconditionally (a) waives, and agrees to cause to be waived and to prevent the exercise of, any rights of appraisal, any dissenters' rights and any similar rights (including any notice requirements related thereto) relating to the Merger that the Stockholder may have by virtue of, or with respect to, any Shares (including all rights under Section 262 of the DGCL) and (b) agrees that the Stockholder will not bring, commence, institute, maintain, prosecute or voluntarily aid or participate in any action, claim, suit or cause of action, in law or in equity, in any court or before any Governmental Authority, which (i) challenges the validity of or seeks to enjoin the operation of any provision of this Agreement or (ii) alleges that the execution and delivery of this Agreement by the Stockholder, or the approval of the Merger Agreement by the Company Board, breaches any fiduciary duty of the Company Board or any member thereof; provided, that (x) the Stockholder may defend against, contest or settle any such action, claim, suit or cause of action brought against the Stockholder that relates solely to the Stockholder's capacity as a director, officer or securityholder of the Company and (y) the foregoing shall not limit or restrict in any manner the Stockholder from enforcing the Stockholder's rights under this Agreement and the other agreements entered into by the Stockholder in connection herewith, or otherwise in connection with the Merger, including the Stockholder's right to receive the Merger Consideration pursuant to the terms of the Merger Agreement.

9. Representations and Warranties of the Stockholder. The Stockholder hereby represents and warrants to the Company as follows:

(a) The Stockholder, if not a natural person, is duly incorporated or organized, as applicable, validly existing and in good standing under the laws of its jurisdiction of incorporation or organization. (i) The

Stockholder is the beneficial owner of the shares of Company Capital Stock indicated in Appendix A (each of which shall be deemed to be "held" by the Stockholder for purposes of Section 3 unless otherwise expressly stated with respect to any shares in Appendix A), free and clear of any and all Encumbrances (except for any Encumbrance that may be imposed pursuant to this Agreement, the Voting Agreement, the Second Amended and Restated Investors' Rights Agreement of the Company, dated as of March 4, 2022 (the "Investors' Rights Agreement"), the Second Amended and Restated Right of First Refusal and Co-Sale Agreement of the Company, dated as of March 4, 2022 (the "ROFR and Co-Sale Agreement") or any lock-up agreement entered into by and among the Stockholder, the Company and Parent); and (ii) the Stockholder does not beneficially own any securities of the Company other than the shares of Company Capital Stock and rights to purchase shares of Company Capital Stock set forth in Appendix A.

(b) Except as otherwise provided in this Agreement, the Stockholder has full power and authority to (i) make, enter into and carry out the terms of this Agreement and (ii) vote all of its Shares in the manner set forth in this Agreement without the consent or approval of, or any other action on the part of, any other person or entity (including any Governmental Authority). Without limiting the generality of the foregoing, except for the Voting Agreement, the Stockholder has not entered into any voting agreement (other than this Agreement) with any person with respect to any of the Stockholder's Shares, granted any person any proxy (revocable or irrevocable) or power of attorney with respect to any of the Stockholder's Shares, deposited any of the Stockholder's Shares in a voting trust or entered into any arrangement or agreement with any person limiting or affecting the Stockholder's legal power, authority or right to vote the Stockholder's Shares on any matter.

(c) This Agreement has been duly and validly executed and delivered by the Stockholder and (assuming the due authorization, execution and delivery by the other parties hereto) constitutes a valid and binding agreement of the Stockholder enforceable against the Stockholder in accordance with its terms, subject to the Enforceability Exceptions. The execution and delivery of this Agreement by the Stockholder and the performance by the Stockholder of the agreements and obligations hereunder will not result in any breach or violation of or be in conflict with or constitute a default under any term of any Contract or if applicable any provision of an organizational document (including a certificate of incorporation) to or by which the Stockholder is a party or bound, or any applicable law to which the Stockholder (or any of the Stockholder's assets) is subject or bound, except for any such breach, violation, conflict or default which, individually or in the aggregate, would not reasonably be expected to materially impair or adversely affect the Stockholder's ability to perform its obligations under this Agreement.

(d) The execution, delivery and performance of this Agreement by the Stockholder do not and will not require any consent, approval, authorization or permit of, action by, filing with or notification to, any Governmental Authority, except for any such consent, approval, authorization, permit, action, filing or notification the failure of which to make or obtain, individually or in the aggregate, has not and would not materially impair the Stockholder's ability to perform its obligations under this Agreement.

(e) The Stockholder has had the opportunity to review the Merger Agreement and this Agreement with counsel of the Stockholder's own choosing. The Stockholder has had an opportunity to review with its own tax advisors the tax consequences of the Merger and the Contemplated Transactions. The Stockholder understands that it must rely solely on its advisors and not on any statements or representations made by Parent, the Company or any of their respective agents or representatives with respect to the tax consequences of the Merger and the Contemplated Transactions. The Stockholder understands that such Stockholder (and not Parent, the Company or the Surviving Corporation) shall be responsible for such Stockholder's tax liability that may arise as a result of the Merger or the Contemplated Transactions. The Stockholder understands and acknowledges that the Company, Parent and Merger Sub are entering into the Merger Agreement in reliance upon the Stockholder's execution, delivery and performance of this Agreement.

(f) With respect to the Stockholder, as of the date hereof, there is no action, suit, investigation or proceeding pending against, or, to the knowledge of the Stockholder, threatened against, the Stockholder or any of the Stockholder's properties or assets (including the Shares) that would reasonably be expected to prevent or materially delay or impair the ability of the Stockholder to perform its obligations hereunder or to consummate the transactions contemplated hereby.

10. Certain Agreements. The Stockholder, by this Agreement, and with respect to such Stockholder's Shares, severally and not jointly, hereby agrees to terminate, subject to the occurrence of, and effective immediately prior to, the Effective Time each of (a) the Voting Agreement, the Investors' Rights Agreement and the ROFR and Co-Sale Agreement and (b) any agreement between the Stockholder, on the one hand, and the Company, on the other hand, providing for registration rights, redemption rights, put rights, purchase rights, information rights, rights to consult with and advise management, inspection rights, preemptive rights, board of directors observer rights or rights to receive information delivered to the board of directors or other similar rights not generally available to stockholders of the Company, but excluding, for the avoidance of doubt, any rights the Stockholder may have that relate to any indemnification, commercial, development or employment agreements or arrangements between such Stockholder and the Company or any subsidiary of the Company, which shall survive in accordance with their terms. The Stockholder hereby terminates and waives all rights of first refusal, redemption rights and rights of notice of the Merger and the other transactions contemplated by the Merger Agreement, effective as of immediately prior to, and contingent upon, the Effective Time.

11. Termination. This Agreement shall terminate and shall cease to be of any further force or effect as of the earliest of (a) such date and time as the Merger Agreement shall have been terminated pursuant to the terms thereof, (b) the Effective Time and (c) such date and time that this Agreement is terminated upon the written agreement of the Stockholder, the Company and Parent (the "Expiration Date"); provided, however, that (x) Section 12 shall survive the termination of this Agreement, and (y) the termination of this Agreement shall not relieve any party hereto from any liability for any material and willful breach of this Agreement prior to the Effective Time.

12. Miscellaneous Provisions.

(a) Amendments. No amendment of this Agreement shall be effective against any party unless it shall be in writing and signed by each of the parties hereto.

(b) Entire Agreement; Counterparts; Exchanges by Electronic Transmission or Facsimile. This Agreement constitutes the entire agreement between the parties to this Agreement and supersedes all other prior agreements, arrangements and understandings, both written and oral, among the parties with respect to the subject matter hereof. This Agreement may be executed in several counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument. The exchange of a fully executed Agreement (in counterparts or otherwise) by all parties by facsimile or electronic transmission in PDF format shall be sufficient to bind the parties to the terms and conditions of this Agreement.

(c) Applicable Law; Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, regardless of the laws that might otherwise govern under applicable principles of conflicts of laws. In any action or proceeding between any of the parties arising out of or relating to this Agreement, each of the parties: (i) irrevocably and unconditionally consents and submits to the exclusive jurisdiction and venue of the Court of Chancery of the State of Delaware or, to the extent such court does not have subject matter jurisdiction, the Superior Court of the State of Delaware or the United States District Court for the District of Delaware, (ii) agrees that all claims in respect of such action or proceeding shall be heard and determined exclusively in accordance with clause (a) of this Section 12(c), (iii) waives any objection to laying venue in any such action or proceeding in such courts, (iv) waives any objection that such courts are an inconvenient forum or do not have jurisdiction over any party, (v) agrees that service of process upon such party in any such action or proceeding shall be effective if notice is given in accordance with Section 12(h) of this Agreement and (vi) irrevocably and unconditionally waives the right to trial by jury.

(d) Assignment. This Agreement shall be binding upon, and shall be enforceable by and inure solely to the benefit of, the parties and their respective successors and permitted assigns; provided, however, that neither this Agreement nor any of a party's rights or obligations hereunder may be assigned or delegated by such party without the prior written consent of the other party (in whole or in part, whether by operation of law or otherwise), and any attempted or purported assignment or delegation of this Agreement or any of such rights or obligations by such party without the other party's prior written consent shall be void and of no effect.

(e) No Third Party Rights. This Agreement is not intended to, and shall not, confer upon any other person any rights or remedies hereunder other than the parties hereto to the extent expressly set forth herein.

(f) Severability. Any term or provision of this Agreement that is invalid or unenforceable in any situation in any jurisdiction shall not affect the validity or enforceability of the remaining terms and provisions of this Agreement or the validity or enforceability of the offending term or provision in any other situation or in any other jurisdiction. If a final judgment of a court of competent jurisdiction declares that any term or provision of this Agreement is invalid or unenforceable, the parties agree that the court making such determination shall have the power to limit such term or provision, to delete specific words or phrases or to replace such term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision, and this Agreement shall be valid and enforceable as so modified. In the event such court does not exercise the power granted to it in the prior sentence, the parties agree to replace such invalid or unenforceable term or provision with a valid and enforceable term or provision that will achieve, to the extent possible, the economic, business and other purposes of such invalid or unenforceable term or provision.

(g) Specific Performance. Except as otherwise provided herein, any and all remedies herein expressly conferred upon a party will be deemed cumulative with and not exclusive of any other remedy conferred hereby, or by law or equity upon such party, and the exercise by a party of any one remedy will not preclude the exercise of any other remedy. The parties agree that irreparable damage for which monetary damages, even if available, would not be an adequate remedy, would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms (including failing to take such actions as are required of it hereunder to consummate this Agreement) or were otherwise breached. It is accordingly agreed that the parties shall be entitled to an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions hereof in any court of the United States or any state having jurisdiction, this being in addition to any other remedy to which they are entitled at law or in equity, and each of the parties waives any bond, surety or other security that might be required of any other party with respect thereto. Each of the parties further agrees that it will not oppose the granting of an injunction, specific performance or other equitable relief on the basis that any other party has an adequate remedy at law or that any award of specific performance is not an appropriate remedy for any reason at law or in equity.

(h) Notices. All notices and other communications hereunder shall be in writing and shall be deemed duly delivered (i) one (1) Business Day after being sent for next Business Day delivery, fees prepaid, via a reputable international overnight courier service, (ii) upon delivery in the case of delivery by hand or (iii) on the date delivered in the place of delivery if sent by email or facsimile (with a written or electronic confirmation of delivery) prior to 6:00 p.m. (New York City time), otherwise on the next succeeding Business Day, (x) if to the Company or Parent, to the address, electronic mail address or facsimile provided in the Merger Agreement, including to the persons designated therein to receive copies; and/or (y) if to the Stockholder, to the Stockholder's address, electronic mail address or facsimile shown below the Stockholder's signature to this Agreement.

(i) Confidentiality. Except to the extent required by applicable Law or regulation, the Stockholder shall hold any non-public information regarding this Agreement, the Merger Agreement and the Merger in strict confidence and shall not divulge any such information to any third person until Parent has publicly disclosed its entry into the Merger Agreement and this Agreement; provided, however, that the Stockholder may disclose such information to its Affiliates, partners, members, stockholders, parents, subsidiaries, attorneys, accountants, consultants, trustees, beneficiaries and other representatives (provided, that such Persons are subject to confidentiality obligations at least as restrictive as those contained herein) or as otherwise permitted pursuant to and in accordance with the terms of Section 3.5 of the Investors' Rights Agreement. Neither the Stockholder nor any of its Affiliates (other than Parent, whose actions shall be governed by the Merger Agreement), shall issue or cause the publication of any press release or other public announcement with respect to this Agreement, the Merger, the Merger Agreement or the other transactions contemplated hereby or thereby without the prior written consent of the Company and Parent, except as may be required by applicable Law in which circumstance such announcing party shall make reasonable efforts to consult with the Company and Parent to the extent practicable. The Company is an intended third-party beneficiary of this Section 12(i).

(j) Interpretation. When reference is made in this Agreement to a Section or Appendix, such reference shall be to a Section of or Appendix to this Agreement, unless otherwise indicated. The headings contained in this Agreement are for convenience of reference only and shall not affect in any way the meaning or interpretation of this Agreement. The language used in this Agreement shall be deemed to be the language chosen by the parties hereto to express their mutual intent, and no rule of strict construction shall be applied against any party. Whenever the context may require, any pronouns used in this Agreement shall include the corresponding masculine, feminine or neuter forms, and the singular form of nouns and pronouns shall include the plural, and vice versa. Any reference to any federal, state, local or foreign statute or law shall be deemed also to refer to all rules and regulations promulgated thereunder, unless the context requires otherwise. Whenever the words “include,” “includes” or “including” are used in this Agreement, they shall be deemed to be followed by the words “without limitation.”

[Remainder of Page Left Intentionally Blank]

IN WITNESS WHEREOF, the undersigned have caused this Agreement to be duly executed as of the date first above written.

COMPANY:
Neurogene Inc.

_____
By:
Title:

PARENT:
Neoleukin Therapeutics, Inc.

_____
By:
Title:

[STOCKHOLDER],
in his/her capacity as the Stockholder:

Signature: _____
Address: _____

Exhibit B

FORM OF LOCK-UP AGREEMENT

July 17, 2023

Neoleukin Therapeutics, Inc.
188 East Blaine Street, Suite 450
Seattle, WA 98102

Ladies and Gentlemen:

The undersigned signatory of this lock-up agreement (this "Lock-Up Agreement") understands that Neoleukin Therapeutics, Inc., a Delaware corporation ("Parent"), has entered into an Agreement and Plan of Merger, dated as of July 17, 2023 (as the same may be amended from time to time, the "Merger Agreement") with Project North Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of Parent, and Neurogene Inc., a Delaware corporation (the "Company"). Capitalized terms used but not otherwise defined herein shall have the respective meanings ascribed to such terms in the Merger Agreement.

As a condition and inducement to Parent to enter into the Merger Agreement and to consummate the transactions contemplated thereby, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned hereby irrevocably agrees that, subject to the exceptions set forth herein, without the prior written consent of Parent, the undersigned will not, during the period commencing upon the Closing and ending on the date that is 180 days after the Closing Date (the "Restricted Period"):

(1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Parent Common Stock or any securities convertible into or exercisable or exchangeable for shares of Parent Common Stock (including without limitation, shares of Parent Common Stock or such other securities which may be deemed to be beneficially owned by the undersigned in accordance with the rules and regulations of the SEC and securities of Parent which may be issued upon exercise of an option to purchase shares of Parent Common Stock or a warrant to purchase shares of Parent Common Stock) that are currently or hereafter owned by the undersigned, except as set forth below (collectively, the "Undersigned's Shares");

(2) enter into any swap, short sale, hedge or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Undersigned's Shares regardless of whether any such transaction described in clause (1) above or this clause (2) is to be settled by delivery of shares of Parent Common Stock or other securities, in cash or otherwise;

(3) make any demand for, or exercise any right with respect to, the registration of any shares of Parent Common Stock or any security convertible into or exercisable or exchangeable for shares of Parent Common Stock (other than such rights set forth in the Merger Agreement); or

(4) publicly disclose the intention to do any of the foregoing.

The restrictions and obligations contemplated by this Lock-Up Agreement shall not apply to:

(a) transfers of the Undersigned's Shares:

(1) (A) to any person related to the undersigned (or to an ultimate beneficial owner of the undersigned) by blood or adoption who is an immediate family member of the undersigned, or by marriage or domestic partnership (a "Family Member"), or to a trust formed for the benefit of the undersigned or any of the undersigned's Family Members, (B) to the undersigned's estate, following the death of the undersigned, by will, other testamentary document, intestacy or other operation of Law, (C) as a bona fide gift or a charitable contribution, (D) by operation of Law pursuant to a qualified domestic order or in connection with a divorce

settlement or (E) to any partnership, corporation or limited liability company which is controlled by or under common control with the undersigned and/or by any such Family Member(s);

(2) if the undersigned is a corporation, partnership, limited liability company or other entity, (A) to another corporation, partnership, limited liability company or other entity that is a direct or indirect affiliate (as defined under Rule 12b-2 of the Exchange Act) of the undersigned, including investment funds or other entities that controls or manages, is under common control or management with, or is controlled or managed by, the undersigned, (B) as a distribution or dividend to equity holders, current or former general or limited partners, members or managers (or to the estates of any of the foregoing), as applicable, of the undersigned (including upon the liquidation and dissolution of the undersigned pursuant to a plan of liquidation approved by the undersigned's equity holders), (C) as a bona fide gift or a charitable contribution or otherwise to a trust or other entity for the direct or indirect benefit of an immediate family member of a beneficial owner (as defined in Rule 13d-3 of the Exchange Act) of the Undersigned's Shares or (D) transfers or dispositions not involving a change in beneficial ownership; or

(3) if the undersigned is a trust, to any grantors or beneficiaries of the trust; provided that, in the case of any transfer or distribution pursuant to this clause (a), such transfer is not for value (other than transfers pursuant to 1(A), 1(E) or 2(A)) and each donee, heir, beneficiary or other transferee or distributee shall sign and deliver to Parent a lock-up agreement in the form of this Lock-Up Agreement with respect to the shares of Parent Common Stock or such other securities that have been so transferred or distributed;

(b) the exercise of an option to purchase shares of Parent Common Stock (including a net or cashless exercise of an option to purchase shares of Parent Common Stock), and any related transfer of shares of Parent Common Stock to Parent for the purpose of paying the exercise price of such options or for paying taxes (including estimated taxes) due as a result of the exercise of such options or for paying taxes (including estimated taxes) due as a result of the exercise of such options; provided that, for the avoidance of doubt, the underlying shares of Parent Common Stock shall continue to be subject to the restrictions on transfer set forth in this Lock-Up Agreement;

(c) transfers of Parent Common Stock sold in open market transactions during the Restricted Period to generate such amount of net proceeds to the Stockholder from such sales (after deducting any commissions) in an aggregate amount up to the total amount of taxes or estimated taxes (as applicable) that become due as a result of the vesting of Parent Restricted Stock Units during the Restricted Period; provided that, for the avoidance of doubt, the underlying shares of Parent Common Stock shall continue to be subject to the restrictions on transfer set forth in this Lock-Up Agreement;

(d) transfers to Parent in connection with the net settlement of any other equity award that represents the right to receive in the future shares of Parent Common Stock, settled in shares of Parent Common Stock, to pay any tax withholding obligations; provided that, for the avoidance of doubt, the underlying shares of Parent Common Stock shall continue to be subject to the restrictions on transfer set forth in this Lock-Up Agreement;

(e) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Parent Common Stock; provided that such plan does not provide for any transfers of shares of Parent Common Stock during the Restricted Period;

(f) transfers by the undersigned of shares of Parent Common Stock or Parent Pre-Funded Warrants purchased by the undersigned on the open market or in a public offering by Parent, in each case following the Effective Time;

(g) transfers by the undersigned of shares of Parent Common Stock or Parent Pre-Funded Warrants purchased by the undersigned prior to the Effective Time that are unrelated to those shares of Parent Common Stock to be issued as consideration pursuant to the Merger Agreement, or Parent Pre-Funded Warrants in lieu thereof;

(h) pursuant to a bona-fide third party tender offer, merger, consolidation or other similar transaction made to all holders of Parent's capital stock involving a change of control of Parent, provided that in the event that such tender offer, merger, consolidation or other such transaction is not completed, the Undersigned's Shares shall remain subject to the restrictions contained in this Lock-Up Agreement;

(i) pursuant to an order of a court or regulatory agency; or

(j) transfers by the undersigned of shares of Parent Common Stock or Parent Pre-Funded Warrants (including Parent Common Stock issued in conjunction with the exercise of such Parent Pre-Funded Warrants), in each case that are issued pursuant to the Merger Agreement in respect of shares or pre-funded warrants of the Company, if any, purchased from the Company on or about the Closing Date (but prior to the Closing of the Merger) in connection with the Company Pre-Closing Financing; and

provided, further, that, with respect to each of (a), (b), (c), (d) and (e) above, no filing by any party (including any donor, donee, transferor, transferee, distributor or distributee) under Section 16 of the Exchange Act or other public announcement shall be made voluntarily reporting a reduction in beneficial ownership of shares of Parent Common Stock or any securities convertible into or exercisable or exchangeable for Parent Common Stock in connection with such transfer or disposition during the Restricted Period (other than any exit filings) and if any filings under Section 16(a) of the Exchange Act, or other public filing, report or announcement reporting a reduction in beneficial ownership of shares of Parent Common Stock in connection with such transfer or distribution, shall be legally required during the Restricted Period, such filing, report or announcement shall clearly indicate in the footnotes therein, in reasonable detail, a description of the circumstances of the transfer and that the shares remain subject to the lock-up agreement.

For purposes of this Lock-Up Agreement, "change of control" shall mean the transfer (whether by tender offer, merger, consolidation or other similar transaction), in one transaction or a series of related transactions, to a person or group of affiliated persons, of Parent's voting securities if, after such transfer, Parent's stockholders as of immediately prior to such transfer do not hold a majority of the outstanding voting securities of Parent (or the surviving entity).

Any attempted transfer in violation of this Lock-Up Agreement will be of no effect and null and void, regardless of whether the purported transferee has any actual or constructive knowledge of the transfer restrictions set forth in this Lock-Up Agreement, and will not be recorded on the share register of Parent. In furtherance of the foregoing, the undersigned agrees that Parent and any duly appointed transfer agent for the registration or transfer of the securities described herein are hereby authorized to decline to make any transfer of securities if such transfer would constitute a violation or breach of this Lock-Up Agreement. Parent may cause the legend set forth below, or a legend substantially equivalent thereto, to be placed upon any certificate(s) or other documents, ledgers or instruments evidencing the undersigned's ownership of Parent Common Stock:

THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO AND MAY ONLY BE TRANSFERRED IN COMPLIANCE WITH A LOCK-UP AGREEMENT, A COPY OF WHICH IS ON FILE AT THE PRINCIPAL OFFICE OF THE COMPANY.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Lock-Up Agreement. All authority herein conferred or agreed to be conferred and any obligations of the undersigned shall be binding upon the successors, assigns, heirs or personal representatives of the undersigned.

The undersigned understands that if the Merger Agreement is terminated for any reason, the undersigned shall be released from all obligations under this Lock-Up Agreement. The undersigned understands that Parent is proceeding with the transactions contemplated by the Merger Agreement in reliance upon this Lock-Up Agreement.

Except as otherwise provided herein, any and all remedies herein expressly conferred upon a party will be deemed cumulative with and not exclusive of any other remedy conferred hereby, or by law or equity upon such

party, and the exercise by a party of any one remedy will not preclude the exercise of any other remedy. The parties agree that irreparable damage for which monetary damages, even if available, would not be an adequate remedy, would occur in the event that any of the provisions of this Lock-Up Agreement were not performed in accordance with their specific terms (including failing to take such actions as are required of it hereunder to consummate this Agreement) or were otherwise breached. It is accordingly agreed that the parties shall be entitled to an injunction or injunctions to prevent breaches of this Lock-Up Agreement and to enforce specifically the terms and provisions hereof in any court of the United States or any state having jurisdiction, this being in addition to any other remedy to which they are entitled at law or in equity, and each of the parties waives any bond, surety or other security that might be required of any other party with respect thereto. Each of the parties further agrees that it will not oppose the granting of an injunction, specific performance or other equitable relief on the basis that any other party has an adequate remedy at law or that any award of specific performance is not an appropriate remedy for any reason at law or in equity.

In the event that any holder of Parent's securities that are subject to a substantially similar agreement entered into by such holder, other than the undersigned, is permitted by Parent to sell or otherwise transfer or dispose of shares of Parent Common Stock for value other than as permitted by this or a substantially similar agreement entered into by such holder (whether in one or multiple releases or waivers), the same percentage of shares of Parent Common Stock held by the undersigned on the date of such release or waiver as the percentage of the total number of outstanding shares of Parent Common Stock held by such holder on the date of such release or waiver that are the subject of such release or waiver shall be immediately and fully released on the same terms from any remaining restrictions set forth herein (the "Pro-Rata Release"); provided, however, that such Pro-Rata Release shall not be applied unless and until permission has been granted by Parent to an equity holder or equity holders to sell or otherwise transfer or dispose of all or a portion of such equity holders shares of Parent Common Stock in an aggregate amount in excess of 1% of the number of shares of Parent Common Stock subject to a substantially similar agreement. In the event of any Pro-Rata Release, Parent shall promptly (and in any event within two (2) business days prior to such release) inform each relevant holder of Parent Common Stock of the terms of such Pro-Rata Release.

Upon the release of any of the Undersigned's Shares from this Lock-Up Agreement, Parent will reasonably cooperate with the undersigned to facilitate the timely preparation and delivery of certificates representing the Undersigned Shares without the restrictive legend above or the withdrawal of any stop transfer instructions by virtue of this Lock-Up Agreement.

This Lock-Up Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, regardless of the laws that might otherwise govern under applicable principles of conflicts of laws. In any action or proceeding between any of the parties arising out of or relating to this Lock-Up Agreement, each of the parties: (i) irrevocably and unconditionally consents and submits to the exclusive jurisdiction and venue of the Court of Chancery of the State of Delaware or, to the extent such court does not have subject matter jurisdiction, the Superior Court of the State of Delaware or the United States District Court for the District of Delaware, (ii) agrees that all claims in respect of such action or proceeding shall be heard and determined exclusively in accordance with foregoing clause (i) of this paragraph, (iii) waives any objection to laying venue in any such action or proceeding in such courts, (iv) waives any objection that such courts are an inconvenient forum or do not have jurisdiction over any party and (v) irrevocably and unconditionally waives the right to trial by jury. This Lock-Up Agreement constitutes the entire agreement between the parties to this Lock-Up Agreement and supersedes all other prior agreements, arrangements and understandings, both written and oral, among the parties with respect to the subject matter hereof. This Lock-Up Agreement may be executed in several counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument. The exchange of a fully executed Lock-Up Agreement (in counterparts or otherwise) by all parties by facsimile or electronic transmission in PDF format shall be sufficient to bind the parties to the terms and conditions of this Agreement.

[SIGNATURE PAGE FOLLOWS]

Very truly yours,

Print Name of Stockholder:

Signature (for individuals):

Signature (for entities):
By:
Name:
Title:

[Signature Page to Lock-Up Agreement]

Accepted and Agreed
by Neoleukin Therapeutics, Inc.

By: _____
Name:
Title:

[Signature Page to Lock-Up Agreement]

Exhibit C

SUBSCRIPTION AGREEMENT

This Subscription Agreement (this "***Agreement***") is made and entered into as of July 17, 2023 (the "***Effective Date***") by and among Neurogene Inc., a Delaware corporation (the "***Company***"), and each of the purchasers listed on the signature pages hereto, severally and not jointly (each, a "***Purchaser***" and together, the "***Purchasers***"). Certain terms used and not otherwise defined in the text of this Agreement are defined in Section 8 hereof.

RECITALS

WHEREAS, the Company is party to that certain Agreement and Plan of Merger by and among the Company, Project North Merger Sub, Inc., a Delaware corporation ("***Merger Sub***"), and Neoleukin Therapeutics, Inc., a Delaware corporation ("***Parent***"), dated on or about the date hereof (the "***Merger Agreement***"), pursuant to which the Company will merge with and into Merger Sub and become a wholly-owned subsidiary of Parent (the "***Merger***");

WHEREAS, the Company desires to sell to the Purchasers, and the Purchasers, severally and not jointly, desire to purchase from the Company, an aggregate amount equal to $95,000,000 of (i) shares of the Company's common stock, par value $0.0001 per share (the "***Company Common Stock***") and (ii) if applicable, pre-funded warrants, in the form attached hereto as Exhibit A between the Company and the applicable Purchasers, (the "***Pre-Funded Warrants***") to acquire that number of shares of Company Common Stock, at a per share purchase price equal to the Purchase Price, in accordance with the terms and provisions of this Agreement, immediately prior to, but subject to, the closing of the Merger; and

WHEREAS, the Company and each Purchaser is executing and delivering this Agreement in reliance upon the exemption from securities registration afforded by Section 4(a)(2) of the 1933 Act.

NOW, THEREFORE, in consideration of the foregoing and the mutual representations, warranties and covenants herein contained, the parties hereto hereby agree as follows:

SECTION 1. Authorization of Securities.

1.01 The Company has authorized the sale and issuance of shares of Company Common Stock and Pre-Funded Warrants on the terms and subject to the conditions set forth in this Agreement. The shares of Company Common Stock sold hereunder at the Closing (as defined below) shall be referred to as the "***Shares***," the shares of Company Common Stock issuable upon exercise of or otherwise pursuant to the Pre-Funded Warrants shall be referred to as the "***Warrant Shares***" and the Shares and the Pre-Funded Warrants (including, as applicable, the Warrant Shares issuable in exchange therefore) shall be collectively referred to as the "***Securities***".

SECTION 2. Sale and Purchase of the Securities.

2.01 Upon the terms and subject to the conditions herein contained, the Company agrees to sell and issue to each Purchaser, and each Purchaser agrees, severally and not jointly, to purchase from the Company, at a closing to take place remotely via exchange of executed documents (the "***Closing***" and the date of the Closing, the "***Closing Date***") to occur immediately prior to the Effective Time (as defined in the Merger Agreement), that number of Shares (the "***Closing Shares***") set forth opposite such Purchaser's name on Schedule I hereto (the "***Schedule of Purchasers***") for the aggregate Purchase Price set forth under the heading "Subscription Amount;" provided, however, for any Purchaser that has provided notice to the Company at least 10 Business Days prior to

the Closing that such Purchaser would beneficially own (when aggregated with all Securities then beneficially owned by the Purchaser and its affiliates (as calculated pursuant to Section 13(d) of the 1934 Act and Rule 13d-3 promulgated thereunder)) in excess of the Beneficial Ownership Limitation, or as such Purchaser may otherwise choose, in lieu of purchasing Shares such Purchaser may elect to purchase that number of Pre-Funded Warrants set forth opposite such Purchaser's name on the Schedule of Purchasers in lieu of Shares in such manner to result in the same Subscription Amount being paid by such Purchaser. The "***Beneficial Ownership Limitation***" shall be 9.99% of the number of shares of Company Common Stock outstanding immediately after giving effect to the issuance of the Securities on the Closing Date.

2.02 At or prior to the Closing, each Purchaser will pay the subscription amount set forth opposite such Purchaser's name on the Schedule of Purchasers (the "***Subscription Amount***") by wire transfer of immediately available funds in accordance with wire instructions provided by the Company to the Purchasers at least two Business Days prior to the Closing (the "***Wire Instructions Notice***"); provided, for the avoidance of doubt, that no Purchaser shall be required to fund prior to the date on which the conditions to the Purchaser's obligations set forth in Section 6.01 below are satisfied (other than those conditions which, by their nature, are to be satisfied at the closing of the transactions contemplated by the Merger Agreement and the Closing). If so requested by the Company in the Wire Instructions Notice and agreed by the applicable Purchaser, the Subscription Amount of such Purchaser shall be paid into an escrow fund or trust account designated by the Company in writing (the "***Escrow Account***") to be released to the Company only upon satisfaction of each of the closing conditions set forth in Section 6 hereof. In the event the Closing does not occur within three Business Days of the Closing Date specified in the Wire Instructions Notice, unless otherwise agreed by the Company and the applicable Purchaser, the Company shall, or shall cause the escrow agent for the Escrow Account to, promptly (but not later than two Business Days thereafter) return the Subscription Amount set forth opposite such Purchaser's name on the Schedule of Purchasers to such Purchaser by wire transfer of U.S. dollars in immediately available funds to the account specified by such Purchaser. On the Closing Date, the Company will deliver, against payment by each Purchaser of its Subscription Amount, the Closing Shares free and clear of all restrictive and other legends (except as required by applicable securities laws) in book-entry form registered in the name of the Purchaser (or its nominee as instructed by the Purchaser), and shall provide evidence of such issuance from the Company's transfer agent as of the Closing Date to each Purchaser; provided that, as applicable with respect to any Pre-Funded Warrants, the Company shall deliver to each applicable Purchaser one or more Pre-Funded Warrants (if applicable), in physical form (.pdf being sufficient), free and clear of all restrictive and other legends (except as expressly provided in Section 7 hereof), evidencing the number of Pre-Funded Warrants set forth opposite such Purchaser's name on the Schedule of Purchasers within three Trading Days after the Closing. Notwithstanding anything to the contrary in this Agreement, (i) each Purchaser acknowledges that, as may be agreed among the Company and one or more Purchasers, such Purchasers may not be required to fund their respective Subscription Amounts until such Purchasers receive evidence from the Company's transfer agent of the issuance of the Closing Shares and, if applicable, the Pre-Funded Warrants on and as of the Closing Date in book-entry form (with respect to the Closing Shares) in the name of the Purchaser (or its nominee as instructed by the Purchaser) and (ii) the Schedule of Purchasers may be amended by the Company and the affected Purchaser up to three Business Days prior to the Closing Date, without the consent of the other parties hereto, to reflect the actual number of Shares and Pre-Funded Warrants purchased by each Purchaser at the Closing; provided that the Company shall provide to the Purchasers such updated Schedule of Purchasers.

2.03 Notwithstanding the foregoing, for any Purchaser that has provided notice to the Company that this Section 2.03 shall apply to it, the Company shall not issue or sell, and the Purchaser shall not purchase or acquire, any Securities under this Agreement which, when aggregated with all Securities then beneficially owned by the Purchaser and its affiliates (as calculated pursuant to Section 13(d) of the 1934 Act and Rule 13d-3 promulgated thereunder), would result in the beneficial ownership by the Purchaser of more than 9.99% of the outstanding shares of Parent common stock, par value $0.000001 per share (the "***Parent Common Stock***"), immediately after giving effect to the Closing and the consummation of the transactions contemplated by the Merger Agreement, and such Purchaser's Subscription Amount shall be reduced accordingly.

SECTION 3. Representations and Warranties of the Purchasers. Each Purchaser, severally and not jointly, represents and warrants to the Company that:

3.01 Validity. The execution, delivery and performance of this Agreement and the consummation by the Purchaser of the transactions contemplated hereby have been duly authorized by all necessary corporate, partnership, limited liability or similar actions, as applicable, on the part of such Purchaser. This Agreement has been duly executed and delivered by the Purchaser and, assuming that this Agreement constitutes the valid and binding obligation of the Company, constitutes a valid and binding obligation of the Purchaser, enforceable against it in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and any other laws of general application affecting enforcement of creditors' rights generally, and as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

3.02 Brokers. There is no broker, investment banker, financial advisor, finder or other person which has been retained by the Purchaser who is entitled to any fee or commission for which the Company will be liable in connection with the execution of this Agreement and the consummation of the transactions contemplated hereby.

3.03 Investment Representations and Warranties. The Purchaser understands and agrees that the offering and sale of the Securities has not been registered under the 1933 Act or any applicable state securities laws and is being made in reliance upon federal and state exemptions for transactions not involving a public offering which depend upon, among other things, the bona fide nature of the investment intent and the accuracy of the Purchaser's representations as expressed herein.

3.04 Acquisition for Own Account. The Purchaser is acquiring the Securities for its own account for investment and not with a view towards distribution in a manner which would violate the 1933 Act or any applicable state or other securities laws. The Purchaser has not been formed for the specific purpose of acquiring the Securities.

3.05 No General Solicitation. The Purchaser is not purchasing the Securities as a result of any advertisement, article, notice or other communication regarding the Securities published in any newspaper, magazine or similar media or broadcast over television, radio or the internet or presented at any seminar or any other general solicitation or general advertisement. The purchase of the Securities by the Purchaser has not been solicited by or through anyone other than the Company or, on the Company's behalf, Cowen and Company, LLC and Stifel, Nicolaus & Company, Incorporated (together, the "***Placement Agents***"), who have been engaged as joint placement agents for the offering of the Securities.

3.06 Ability to Protect Its Own Interests and Bear Economic Risks. The Purchaser is a sophisticated institutional investor, has the capacity to protect its own interests in connection with the transactions contemplated by this Agreement, and has sufficient knowledge and experience in investing in investments similar to the Securities to properly evaluate the merits and risks of the investment in the Securities. The Purchaser is able to bear the substantial risks of an investment in the Securities including but not limited to loss of the Purchaser's entire investment therein.

3.07 Accredited Investor. The Purchaser is an "accredited investor" within the meaning of Rule 501(a) (1), (2), (3) or (7) under the 1933 Act.

3.08 Restricted Securities. The Purchaser understands that the Securities will be characterized as "restricted securities" under the federal securities laws inasmuch as they are being acquired from the Company in a private placement under Section 4(a)(2) of the 1933 Act and that, under such laws and applicable regulations, such Securities may be resold without registration under the 1933 Act only in certain limited circumstances.

3.09 Review and Advisors. The Purchaser has had the opportunity to review with the Purchaser's own tax advisors the federal, state and local tax consequences of its purchase of the Securities set forth opposite such Purchaser's name on the Schedule of Purchasers and the transactions contemplated by this Agreement. The Purchaser is relying solely on the Purchaser's own determination as to tax consequences, and on the Purchaser's own sources of information and advisors with respect to all tax matters, and not on any statements or representations of the Company (other than the representations and warranties in this Agreement), the Placement Agents or any of their respective agents, and understands that the Purchaser (and not the Company) shall be responsible for the Purchaser's own tax liability that may arise as a result of the transactions contemplated by this Agreement. Based on such information as the Purchaser deemed appropriate and without reliance upon the Placement Agents, the Purchaser has independently made its own analysis and decision to purchase the Securities. The Purchaser has (i) had the opportunity to ask questions of and receive answers directly with respect to its purchase of Securities, and (ii) conducted and completed its own independent due diligence with respect to the purchase of Securities. The Purchaser understands that the Placement Agents have acted solely as the agents of the Company in this placement of the Securities and the Purchaser has not relied on the business or legal advice of the Placement Agents or any of their agents, counsel or affiliates in making its investment decision hereunder, and confirms that none of such persons has made any representations or warranties to the Purchaser in connection with the transactions contemplated hereby.

3.10 Residency. The Purchaser's residence (if an individual) or offices in which its investment decision with respect to the Securities was made (if an entity) are located at the address immediately below such Purchaser's name on the Schedule of Purchasers, or as otherwise noted on the Schedule of Purchasers.

3.11 Disclosure of Information. The Purchaser has had an opportunity to discuss the Company's business, management, financial affairs and the terms and conditions of the offering of the Securities and the terms of the Merger with the Company's management. The foregoing, however, does not limit or modify the representations and warranties of the Company in Section 4 of this Agreement or the right of the Purchasers to rely thereon.

SECTION 4. Representations and Warranties by the Company. The Company represents and warrants to the Purchasers that:

4.01 Absence of Changes. The Company has conducted its business only in the ordinary course of business (except for the execution and performance of this Agreement and the Merger Agreement, and the discussions, negotiations, and transactions related thereto) and (i) there has not been any change, condition, event, circumstance, occurrence, result, state of facts or development that has or would reasonably be expected to have a materially adverse effect on (a) the business, financial condition, assets, operations, results of operations, stockholders' equity or financial performance of the Company, or (b) the Company's ability to consummate the transactions contemplated hereby (collectively, a "***Material Adverse Effect***"), (ii) there have been no transactions entered into by the Company, other than those in the ordinary course of business and except as contemplated in this Agreement and the Merger Agreement, which are material with respect to the Company and (iii) there has been no dividend or distribution of any kind declared, paid or made by the Company on any class of its capital stock.

4.02 Organization and Good Standing of the Company. The Company is a corporation duly incorporated and is validly existing and in good standing under the laws of the State of Delaware, and has all necessary power and authority (i) to conduct its business in all material respects in the manner in which its business is currently being conducted, (ii) to own or lease and use its property and assets in the manner in which its property and assets are currently owned or leased and used in all material respects and (iii) to perform its obligations under all contracts by which it is bound in all material respects. The Company is duly qualified as a foreign corporation to transact business and is in good standing in each other jurisdiction in which such qualification is required, whether by ownership or leasing of property or the conduct of business, except where the failure so to qualify or to be in good standing would not have or reasonably be expected to have a Material Adverse Effect.

4.03 Subsidiaries. The Company does not have any subsidiaries and does not otherwise own any shares of capital stock or any interest in any other Person. The Company does not control directly or indirectly or have any direct or indirect equity participation or similar interest in any corporation, partnership, limited liability company, joint venture, trust or other business association or entity.

4.04 Validity; Valid Issuance of Securities. The Company has all requisite corporate power and authority to enter into this Agreement and to consummate the transactions contemplated by this Agreement, subject only to the adoption of the Merger Agreement in accordance with the terms thereof by the Company's stockholders under the Delaware General Corporation Law (the "***DGCL***") and the Company's certificate of incorporation. The execution and delivery of this Agreement and the consummation of the transactions contemplated by this Agreement by the Company have been duly authorized by all necessary corporate action on the part of the Company. Assuming the due authorization, execution and delivery by the Purchasers, this Agreement constitutes a legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and any other laws of general application affecting enforcement of creditors' rights generally, and as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies. The Securities are duly authorized and, when issued, sold and delivered in accordance with the terms and for the consideration set forth in this Agreement, will be validly issued, fully paid and nonassessable and free and clear of any liens or other restrictions, other than restrictions on transfer under applicable state and federal securities or such restrictions as the Purchasers have agreed to in writing with the Company, and will not have been issued in violation of or subject to any preemptive or similar rights created under the Company's certificate of incorporation or bylaws or the DGCL. All of the issued and outstanding shares of capital stock of the Company have been issued in compliance with all applicable federal and state securities laws.

4.05 Governmental Consents and Filings. Assuming the accuracy of the representations made by the Purchasers in Section 3 hereof and except as set forth in the Merger Agreement, no material consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any Governmental Entity (as defined below) is required on the part of the Company in connection with the consummation of the transactions contemplated by this Agreement, except for filings pursuant to Regulation D of the 1933 Act and applicable state securities laws, which have been made or will be made in a timely manner.

4.06 Absence of Violations, Defaults and Conflicts. The Company is not (i) in violation of its certificate of incorporation, bylaws or similar organizational documents, (ii) in default in the performance or observance of any obligation, agreement, covenant or condition contained in any contract, indenture, mortgage, deed of trust, loan or credit agreement, note, lease or other agreement or instrument to which the Company is a party or by which it may be bound or to which any of the properties or assets of the Company is subject (collectively, "***Agreements and Instruments***"), except for such defaults that would not, singly or in the aggregate, have or reasonably be expected to have a Material Adverse Effect, or (iii) in violation of any law, statute, rule, regulation, judgment, order, writ or decree of any arbitrator, court, governmental body, regulatory body, administrative agency or other authority, body or agency having jurisdiction over the Company or any of its properties, assets or operations (each, a "***Governmental Entity***"), except for such violations that would not, singly or in the aggregate, have or reasonably be expected to have a Material Adverse Effect. The execution, delivery and the performance of this Agreement and the consummation of the transactions contemplated herein (including the issuance and sale of the Securities) and compliance by the Company with its obligations hereunder do not and will not, whether with or without the giving of notice or passage of time or both, (1) conflict with or constitute a breach of, or default under, or result in the creation or imposition of any lien, charge or encumbrance upon any properties or assets of the Company pursuant to, the Agreements and Instruments, (2) result in any violation of the provisions of the certificate of incorporation, bylaws or similar organizational documents of the Company or (3) result in any violation of any applicable law, statute, rule, regulation, judgment, order, writ or decree of any Governmental Entity, except in the case of clauses (1) and (3), for such violations as would not, singly or in the aggregate, have

or reasonably be expected to have a Material Adverse Effect, or materially affect the validity of the Securities or the legal authority of the Company to perform its obligations hereunder and timely comply in all material respects with the terms of this Agreement or the Merger Agreement.

4.07 Absence of Proceedings. There is no action, suit, proceeding or, to the actual or constructive knowledge of the Company's Chief Executive Officer or Chief Financial Officer after due inquiry ("***Company's Knowledge***"), inquiry or investigation, before or brought by any Governmental Entity now pending or, to the Company's Knowledge, threatened, against or affecting the Company, which would have or reasonably be expected to have a Material Adverse Effect or materially affect the validity of the Securities or the legal authority of the Company to perform its obligations hereunder and timely comply in all material respects with the terms of this Agreement or the Merger Agreement. There are no material judgments, orders or decrees outstanding against the Company.

4.08 Possession of Licenses and Permits. The Company possesses such permits, licenses, approvals, consents and other authorizations (collectively, "***Governmental Licenses***") issued by the appropriate Governmental Entities necessary to conduct the business now operated by it, except where the failure so to possess would not, singly or in the aggregate, have or reasonably be expected to have a Material Adverse Effect. The Company is in compliance with the terms and conditions of all Governmental Licenses, except where the failure so to comply would not, singly or in the aggregate, have or reasonably be expected to have a Material Adverse Effect. All of the Governmental Licenses are valid and in full force and effect, except when the invalidity of such Governmental Licenses or the failure of such Governmental Licenses to be in full force and effect would not, singly or in the aggregate, have or reasonably be expected to have a Material Adverse Effect. The Company has not received any notice of proceedings relating to the revocation or modification of any Governmental Licenses which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would have or reasonably be expected to have a Material Adverse Effect.

4.09 Payment of Taxes. All United States federal income tax returns of the Company required by law to be filed have been filed and all taxes shown by such returns or otherwise assessed, which are due and payable, have been paid, except assessments against which appeals have been or will be promptly taken and as to which adequate reserves have been provided. No assessment in connection with United States federal tax returns has been made against the Company. The Company has filed all other tax returns that are required to have been filed by it through the date hereof or have timely requested extensions thereof pursuant to applicable foreign state, local or other law except insofar as the failure to file such returns would not have or reasonably be expected to have a Material Adverse Effect, and has paid all taxes due pursuant to such returns or all taxes due and payable pursuant to any assessment received by the Company, except for such taxes, if any, as are being contested in good faith and as to which adequate reserves have been established by the Company and except where the failure to pay such taxes would not have or reasonably be expected to have a Material Adverse Effect.

4.10 Insurance. The Company carries or is entitled to the benefits of insurance, with what the Company reasonably believes to be financially sound and reputable insurers, in such amounts and covering such risks as is adequate for the conduct of its businesses and the value of its properties and assets, and all such insurance is in full force and effect. The Company has no reason to believe that it will not be able to (i) renew its existing insurance coverage as and when such policies expire or (ii) obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not have or reasonably be expected to have a Material Adverse Effect.

4.11 Investment Company Act. The Company is not required, and upon the issuance and sale of the Securities will not be required, to register as an "investment company" under the Investment Company Act of 1940, as amended.

4.12 Shell Company Status. Neither the Company nor Parent is, or has ever been, an issuer identified in Rule 144(i)(1) promulgated under the 1933 Act.

4.13 Regulatory Matters. Except as would not, singly or in the aggregate, have or reasonably be expected to have a Material Adverse Effect: (i) the Company has not received any FDA Form 483, notice of adverse finding, warning letter or other correspondence or written notice from the U.S. Food and Drug Administration ("***FDA***") or any other Governmental Entity alleging or asserting noncompliance with any Applicable Laws (as defined in clause (ii) below) or Authorizations (as defined in clause (iii) below); (ii) the Company is and has been in compliance with statutes, laws, ordinances, rules and regulations applicable to the Company for the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product manufactured or distributed by the Company, including without limitation, the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 301, et seq., similar laws of other Governmental Entities and the regulations promulgated pursuant to such laws (collectively, "***Applicable Laws***"); (iii) the Company possesses all licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws and/or to carry on its businesses as now conducted ("***Authorizations***") and such Authorizations are valid and in full force and effect and the Company is not in violation of any term of any such Authorizations; (iv) the Company has not received notice of any ongoing claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any Governmental Entity or third party alleging that any of its products, operations or activities are in violation of any Applicable Laws or Authorizations and does not have any knowledge that any such Governmental Entity or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding, nor, to the Company's Knowledge, has there been any noncompliance with or violation of any Applicable Laws by the Company that could reasonably be expected to require the issuance of any such communication or result in an investigation, corrective action, or enforcement action by FDA or similar Governmental Entity; (v) the Company has not received notice that any Governmental Entity has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorizations has and does not have any knowledge that any such Governmental Entity is threatening or is considering such action; and (vi) the Company has filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete, correct and not misleading on the date filed (or were corrected or supplemented by a subsequent submission).

4.14 Compliance With Laws. The Company has complied in all material respects with, is not in material violation of, and has not received any written notice alleging any violation with respect to, any applicable provisions of any statute, law or regulation with respect to the conduct of its business, or the ownership or operation of its properties or assets.

4.15 Financial Statements. The Company has made available to each Purchaser its unaudited balance sheet as of December 31, 2022, together with related unaudited statements of operations, changes in stockholders' equity and cash flows, and notes thereto, of the Company for the fiscal year then ended (collectively, the "***Financial Statements***"). The Financial Statements have been prepared in accordance with United States generally accepted accounting principles ("***GAAP***") applied on a consistent basis throughout the periods indicated, except that the unaudited Financial Statements may not contain all footnotes and other presentation items required by GAAP and are subject to normal and recurring year-end adjustments that are not reasonably expected to be material in amount. The Financial Statements fairly present in all material respects the financial condition and operating results of the Company as of the dates, and for the periods, indicated therein, subject in the case of the unaudited Financial Statements to normal year-end audit adjustments. Except as set forth in the Financial Statements, between December 31, 2022 and the date of this Agreement, the Company has not incurred any material liabilities or obligations, contingent or otherwise, other than (i) liabilities incurred in the ordinary course of business; (ii) obligations under contracts and commitments incurred in the ordinary course of business; (iii) liabilities for transaction expenses incurred in connection with the transactions contemplated by this Agreement and the Merger Agreement; and (iv) liabilities and obligations of a type or nature not required under GAAP to be reflected in the Financial Statements. The Company maintains and will continue to maintain a

standard system of accounting established and administered to provide reasonable assurance that transactions are recorded as necessary to permit preparation of the financial statements of the Company in conformity with GAAP.

4.16 Information Provided. The information to be supplied by or on behalf of the Company for inclusion or incorporation by reference in the Registration Statement (as defined in the Merger Agreement), or supplied by or on behalf of the Company for inclusion in any filing pursuant to Rule 165 and Rule 425 under the 1933 Act or Rule 14a-12 under the 1934 Act (each a "***Regulation M-A Filing***"), shall not, at the time the Registration Statement or any such Regulation M-A Filing is filed with the Securities and Exchange Commission (the "***Commission***"), at any time it is amended or supplemented or at the time the Registration Statement is declared effective by the Commission, as applicable, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein not misleading. The information to be supplied by or on behalf of the Company for inclusion in the Registration Statement to be sent to the stockholders of Parent in connection with the meeting of Parent's stockholders (the "***Public Company Meeting***"), shall not, on the date the proxy statement/prospectus included in the Registration Statement is first mailed to stockholders of Parent, at the time of the Public Company Meeting or at the Effective Time (as defined in the Merger Agreement), contain any statement that, at such time and in light of the circumstances under which it shall be made, is false or misleading with respect to any material fact, or omit to state any material fact necessary in order to make the statements made in the Registration Statement not false or misleading; or omit to state any material fact necessary to correct any statement in any earlier communication with respect to the solicitation of proxies for the Public Company Meeting that has become false or misleading.

4.17 No Additional Agreements. Other than as set forth on Schedule II (the "***Schedule of Additional Agreements***") hereto, the Company does not have any agreement with any Purchaser with respect to the transactions contemplated by this Agreement other than as specified in this Agreement.

4.18 Private Placement. Neither the Company nor any person acting on its behalf, has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security under any circumstances that would require registration under the 1933 Act of the Securities being sold pursuant to this Agreement. Assuming the accuracy of the representations and warranties of the Purchasers contained in Section 3 hereof, the issuance and sale of the Securities is exempt from registration under the 1933 Act.

4.19 No Disqualification Events. No "bad actor" disqualifying event described in Rule 506(d)(1)(i)-(viii) of the 1933 Act (a "***Disqualification Event***") is applicable to the Company or, to the Company's Knowledge, any Company Covered Person (as defined below), except for a Disqualification Event as to which Rule 506(d)(2)(ii–iv) or (d)(3) is applicable. "***Company Covered Person***" means, with respect to the Company as an "issuer" for purposes of Rule 506 promulgated under the 1933 Act, any person listed in the first paragraph of Rule 506(d)(1). The Company is not aware of any Person (other than any Company Covered Person) that has been or will be paid (directly or indirectly) remuneration for solicitation of purchasers in connection with the sale of the Securities pursuant to this Agreement. The Company has complied, to the extent applicable, with its disclosure obligations under Rule 506(e).

4.20 No General Solicitation. Neither the Company nor, to the Company's Knowledge, any person acting on behalf of the Company has offered or sold any of the Securities by any form of general solicitation or general advertising.

4.21 No Integrated Offering. Assuming the accuracy of the Purchasers' representations and warranties set forth in Section 3 hereof, neither the Company, nor, to the Company's knowledge, any of its Affiliates or any Person acting on its behalf has, directly or indirectly, at any time within the past six months, made any offers or sales of any Company security or solicited any offers to buy any security under circumstances that would (i) eliminate the availability of the exemption from registration under Regulation D under the 1933 Act in connection with the offer and sale by the Company of the Securities as contemplated hereby or (ii) cause

the offering of the Securities pursuant to this Agreement to be integrated with prior offerings by the Company for purposes of any applicable law, regulation or stockholder approval provisions, including, without limitation, under the rules and regulations of any National Exchange on which any of the securities of the Company are listed or designated.

4.22 Brokers. Other than the Placement Agents, there is no broker, investment banker, financial advisor, finder or other person which has been retained by or is authorized to act on behalf of the Company that is entitled to any fee or commission in connection with the execution of this Agreement and the consummation of the transactions contemplated hereby.

4.23 Authorization of Merger Agreement. All necessary corporate action has been duly and validly taken by the Company to authorize the execution, delivery and performance of the Merger Agreement. The Merger Agreement constitutes legal, valid and binding obligations of the Company enforceable against it in accordance with its terms, except as the enforceability thereof may be limited by bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws relating to or affecting the enforcement of creditors' rights generally and by general principles of equity or public policy (regardless of whether enforcement is sought in a proceeding at law or in equity).

4.24 Additional Representations and Warranties. The Company's representations and warranties set forth in the Merger Agreement in Section 3.6 (Capitalization), Section 3.7(b) (Financial Statements), 3.10 (Title to Assets), 3.11 (Real Property; Leasehold), 3.12 (Intellectual Property), 3.13 (Agreements, Contracts and Commitments), 3.16 (Tax Matters), 3.17 (Employee and Labor Matters; Benefit Plans), 3.18 (Environmental Matters), 3.21(Transactions with Affiliates) and 3.22 (Privacy and Data Security) are hereby incorporated by reference and made by the Company, as qualified by the disclosures in the Company Disclosure Schedule (as defined in the Merger Agreement). As of the Effective Date, to the Company's Knowledge, the representations and warranties of Parent in the Merger Agreement and in any certificate or other writing delivered by Parent pursuant thereto are true and correct.

4.25 Reliance by Purchasers. The Company acknowledges that each Purchaser will rely upon the truth and accuracy of, and the Company's compliance with, the representations, warranties, agreements, acknowledgements and understandings of the Company set forth in this Agreement.

SECTION 5. Covenants.

5.01 Further Assurances. At or prior to the Closing, each party agrees to cooperate and generally do such reasonable acts and things in good faith as may be necessary to timely satisfy each of the conditions to be satisfied by it as provided in Section 6 of this Agreement and effectuate the intents and purposes of this Agreement subject to the terms and conditions hereof.

5.02 Disclosure of Transactions and Other Material Information. The Company shall or shall cause Parent to, on or before 9:00 a.m., New York City time, on the Business Day immediately following the date of this Agreement (or if this Agreement is executed between midnight and 9:00 a.m., New York City time, on any Business Day, no later than 9:01 a.m. on the date the Agreement is executed), issue one or more press releases, post to the Company website one or more presentations and/or file with the Commission a Current Report on Form 8-K (collectively, the "***Disclosure Document***") disclosing all material terms of the transactions contemplated hereby and any other material nonpublic information that the Company, Parent or their respective officers, directors, employees, agents or any other person acting at the direction of the Company or Parent has provided to the Purchasers in connection with the transactions contemplated by this Agreement or the Merger Agreement prior to the filing of the Disclosure Document. The Company represents and warrants that, from and after the issuance of the Disclosure Document, no Purchaser shall be in possession of any material, nonpublic information received from the Company, Parent or its or their respective officers, directors, employees, agents or other Person acting at its or their direction. The Company shall not, and shall cause its officers, directors,

employees and agents and Parent not to, publicly disclose the name of any Purchaser or any affiliate or investment adviser of any Purchaser, or include the name of any Purchaser or any affiliate or investment adviser of any Purchaser without the prior written consent (e-mail being sufficient) of such Purchaser (i) in any press release or marketing materials, or (ii) in any filing with the Commission or any regulatory agency or trading market, except (A) as required by the federal securities laws, rules or regulations, (B) to the extent such disclosure is required by other laws, rules or regulations, at the request of the staff of the Commission or regulatory agency or under regulations of any national securities exchange on which Parent's securities are listed for trading or (C) to the extent such disclosure contains only information previously approved in accordance with this Section 5.02, and in the case of any disclosure made pursuant to clause (ii), the Company will provide the Purchaser with prior written notice (e-mail being sufficient) of, and an opportunity to, review the applicable portion of such filing.

5.03 Expenses. The Company and each Purchaser is liable for, and will pay, its own expenses incurred in connection with the negotiation, preparation, execution and delivery of this Agreement, including, without limitation, attorneys' and consultants' fees and expenses.

5.04 Registration of the Securities. On or prior to the Closing Date, the Registration Statement (as defined in the Merger Agreement) shall register the issuance of the shares of Parent Common Stock (as defined in the Merger Agreement) to be issued subject to and in accordance with the terms of the Merger Agreement, by virtue of the Contemplated Transactions (as defined in the Merger Agreement) subject to and in accordance with the terms of the Merger Agreement, by virtue of the Contemplated Transactions (as defined in the Merger Agreement). To the extent the Shares and the shares of Common Stock underlying the Pre-Funded Warrants are not included in the Registration Statement, the Company shall cause Parent to file a registration statement on Form S-3 to register such securities for resale as promptly as possible following the Closing, and in no event any later than five Business Days from the Closing upon such terms and conditions as to be agreed to among the Company, Parent and the Purchasers.

5.05 Blue Sky Laws. The Company, on or before the Closing Date, shall take such action as the Company shall reasonably determine is necessary in order to obtain an exemption for or to qualify the Securities for sale to each Purchaser at the Closing pursuant to this Agreement under applicable securities or "blue sky" laws of the states of the United States (or to obtain an exemption from such qualification). The Company shall make all filings and reports relating to the offer and sale of the Securities required under applicable securities or "blue sky" laws of the states of the United States following the Closing Date.

5.06 No Amendment or Waiver of Merger Agreement Terms. The Company shall not amend, modify or waive (or approve an amendment, modification or a waiver requested by Parent of, or fail to contest an action regarding a breach of) any provision of the Merger Agreement in a manner that would reasonably be expected to materially and adversely affect the benefits that the Purchasers would reasonably expect to receive pursuant to this Agreement without the consent of each Purchaser.

5.07 Equal Treatment of Purchasers. No consideration shall be offered or paid to any Purchaser to amend or consent to a waiver or modification of any provision of this Agreement unless the same consideration is also offered to all of the Purchasers. For clarification purposes, this provision constitutes a separate right granted to each Purchaser by the Company and negotiated separately by such Purchaser and shall not in any way be construed as the Purchasers acting in concert or as a group with respect to the purchase, disposition or voting of shares of Company Common Stock or otherwise.

5.08 Legend Removal. Upon request to the Company, the restrictive legends described in Section 7.01 shall promptly be removed in accordance with applicable securities laws following the closing of the Merger. Except with respect to any shares held by Affiliates, the shares of Parent Common Stock to be received in the Merger in exchange for the Shares will be issued in book-entry form, free and clear of any liens or other restrictions whatsoever and without restrictive legends in accordance with applicable securities laws.

SECTION 6. Conditions of Closing.

6.01 Conditions of the Purchasers' Obligations at the Closing. The obligations of each Purchaser under Section 2 are subject to the fulfillment, at or prior to the Closing, of the following conditions, unless otherwise waived by such Purchaser solely as to itself.

i. Representations and Warranties. The representations and warranties of the Company contained in this Agreement shall be true and correct in all respects on the Effective Date, and shall be true and correct in all material respects on and as of the Closing Date with the same effect as though such representations and warranties had been made on and as of the Closing Date (except (a) to the extent expressly made as of an earlier date in which case as of such earlier date and (b) representations and warranties that are qualified as to materiality or Material Adverse Effect, which representations and warranties shall be true in all respects).

ii. Performance. The Company shall have performed and complied in all material respects with all covenants, agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or prior to the Closing Date.

iii. Compliance Certificate. The Chief Financial Officer of the Company shall have delivered to the Purchasers at or prior to the Closing a certificate, in form and substance reasonably acceptable to the Purchasers, certifying that the conditions specified in Sections 6.01(i), 6.01(ii), 6.01(vi), 6.01(ix), 6.01(x), 6.01(xi) and 6.01(xii)(A) of this Agreement have been fulfilled.

iv. Qualification under Securities Laws. All registrations, qualifications, permits and approvals, if any, required under applicable securities laws shall have been obtained for the lawful execution, delivery and performance of this Agreement.

v. Secretary's Certificate. The Secretary of the Company shall have delivered to the Purchasers at or prior to the Closing a certificate, in form and substance reasonably acceptable to the Purchasers (such consent not to be unreasonably withheld, conditioned or delayed), certifying (a) the certificate of incorporation and bylaws of the Company in effect at the Closing, (b) authorization of the Board of Directors of the Company approving this Agreement and the Merger Agreement and the transactions contemplated under this Agreement and the Merger Agreement and (c) certificates evidencing the good standing of the Company in Delaware issued by the Secretary of State of Delaware, each as of a date within five Business Days of the Closing Date.

vi. Merger. All conditions to the closing of the Merger shall have been satisfied or waived (other than the Closing hereunder and other than those conditions which, by their nature, are to be satisfied at the closing of the transactions contemplated by the Merger Agreement), and the closing of the Merger shall be set to occur substantially concurrently with the Closing hereunder. The Company shall not have amended, modified, or waived any provision under the Merger Agreement in a manner that would reasonably be expected to materially and adversely affect the benefits that the Purchasers would reasonably expect to receive under this Agreement without having received each affected Purchaser's prior written consent.

vii. No Injunction. No statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any Governmental Entity of competent jurisdiction that prohibits the consummation of any of the transactions contemplated by this Agreement.

viii. Opinion of Company Counsel. The Purchasers shall have received from Gibson, Dunn & Crutcher LLP, counsel for the Company, an opinion, dated as of the Closing, in the form agreed between the Company and the Purchaser Majority.

ix. Registration Statement; Proxy Statement/Prospectus. The Registration Statement shall have become effective under the 1933 Act and no stop order suspending the effectiveness of the Registration

Statement shall have been issued and no proceeding for that purpose, and no similar proceeding with respect to the Registration Statement shall have been initiated or threatened in writing by the Commission or its staff.

x. Nasdaq. Parent shall have received approval from the Nasdaq Capital Market that the shares of Parent Common Stock to be issued in the Contemplated Transactions, including the Closing Shares, shall have been approved for listing (subject to official notice of issuance) on Nasdaq.

xi. Financing Amount. The Company shall receive at Closing the Financing Amount.

xii. No Material Adverse Effect. Since the Effective Date, (A) no Material Adverse Effect or, (B) to the Company's Knowledge, Parent Material Adverse Effect (as defined in the Merger Agreement as in effect on the date hereof) shall have occurred.

xiii. Parent Net Cash. Parent Net Cash (as defined in the Merger Agreement as in effect on the date hereof) shall not be less than $60,000,000.00 at the closing of the Merger.

6.02 Conditions of the Company's Obligations. The obligations of the Company under Section 2 are subject to the fulfillment, at or prior to the Closing, of the following conditions, any of which may be waived in whole or in part by the Company in its absolute discretion.

i. Representations and Warranties. The representations and warranties of the Purchasers contained in this Agreement shall be true and correct as of the Effective Date and true and correct in all material respects on and as of the Closing Date with the same effect as though such representations and warranties had been made on and as of the Closing Date (except to the extent expressly made as of an earlier date in which case shall be as of such earlier date).

ii. Performance. Each Purchaser shall have performed and complied in all material respects with all covenants, agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or prior to the Closing Date.

iii. Qualification under Securities Laws. All registrations, qualifications, permits and approvals, if any, required under applicable securities laws shall have been obtained for the lawful execution, delivery and performance of this Agreement.

iv. Merger. All conditions to the closing of the Merger shall have been satisfied or waived (other than the Closing hereunder and other than those conditions which, by their nature, are to be satisfied at the closing of the transactions contemplated by the Merger Agreement), and the closing of the Merger shall be set to occur substantially concurrently with the Closing hereunder.

SECTION 7. Transfer Restrictions; Restrictive Legend.

7.01 Transfer Restrictions. Each Purchaser understands that the Company may, as a condition to the transfer of any of the Securities, require that the request for transfer be accompanied by a certificate and/or an opinion of counsel reasonably satisfactory to the Company, to the effect that the proposed transfer does not result in a violation of the 1933 Act, unless such transfer is covered by an effective registration statement or is exempt from the registration requirements of the 1933 Act, including under Rule 144. It is understood that the certificates evidencing the Securities may bear substantially the following legend:

"THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR ANY APPLICABLE STATE SECURITIES LAWS. THEY MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF A REGISTRATION STATEMENT IN EFFECT WITH RESPECT TO THE SECURITIES UNDER SUCH ACT OR APPLICABLE STATE SECURITIES LAWS OR A VALID EXEMPTION FROM REGISTRATION UNDER SUCH ACT OR APPLICABLE STATE SECURITIES LAWS."

SECTION 8. Definitions. Unless the context otherwise requires, the terms defined in this Section 8 shall have the meanings specified for all purposes of this Agreement.

"***1933 Act***" means the Securities Act of 1933, as amended.

"***1934 Act***" means the Securities Exchange Act of 1934, as amended.

"***Affiliate***" shall have the meaning ascribed to such term in Rule 12b-2 of the General Rules and Regulations under the 1934 Act.

"***Business Day***" means any day other than Saturday, Sunday or other day on which commercial banks in the City of New York are authorized or required by law to remain closed.

"***Financing Amount***" means $75,000,000.

"***National Exchange***" means the Nasdaq Global Select Market, the Nasdaq Global Market, the Nasdaq Capital Market, or the New York Stock Exchange.

"***Person***" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

"***Purchase Price***" means an amount equal to (i) the Company Equity Value (as defined in the Merger Agreement), divided by (ii) the number of Company Outstanding Shares (as defined in the Merger Agreement but excluding the Securities being issued hereunder) as of immediately prior to the closing of offering of the Securities hereunder.

"***Purchaser Majority***" means, prior to the Closing, the Purchasers committed to purchase at least a majority the Securities, provided that each Purchaser who has committed to purchase at least $10,000,000 of the Securities is included in such majority and, following the Closing, both (i) the Purchasers who hold at least a majority of the Securities (including any Parent Common Stock issued in exchange therefore) still held by the Purchasers, and (ii) each Purchaser (A) whose Subscription Amount exceeds $10,000,000 and (B) who continues to hold at least 50% of the Securities (including any Parent Common Stock issued in exchange therefore) such Purchaser purchased on the Closing Date.

"***Rule 144***" means Rule 144 promulgated by the Commission pursuant to the 1933 Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same effect as Rule 144.

"***Trading Day***" means any days during the course of which the Nasdaq Capital Market is open for the exchange of securities.

SECTION 9. Miscellaneous.

9.01 Waivers and Amendments. Neither this Agreement, nor any provision hereof, may be changed, waived, amended or modified orally or by course of dealing, but only by an instrument in writing executed by the Company and each Purchaser.

9.02 Notices. All notices, requests, consents, and other communications under this Agreement shall be in writing and shall be deemed delivered (i) when delivered, if delivered personally, (ii) four Business Days after being sent by registered or certified mail, return receipt requested, postage prepaid, (iii) one Business Day after being sent via a reputable nationwide overnight courier service guaranteeing next Business Day delivery, or

(iv) when receipt is acknowledged, in the case of email, in each case to the intended recipient as set forth below, with respect to the Company, and to the addresses set forth on the Schedule of Purchasers with respect to the Purchasers.

if to the Company:
Neurogene Inc.
535 W 24th Street, 5th Floor
New York, NY 10011 Attention: Christine Mikail, J.D.
Email: [*]

with a copy to (which shall not constitute notice):

Gibson, Dunn & Crutcher LLP
555 Mission Street, Suite 3000
San Francisco, CA 94105
Attention: Ryan A. Murr, Branden C. Berns
Email: rmurr@gibsondunn.com, bberns@gibsondunn.com

or at such other address as the Company or each Purchaser may specify by written notice to the other parties hereto in accordance with this Section 9.02.

9.03 Cumulative Remedies. None of the rights, powers or remedies conferred upon each Purchaser, on the one hand, or the Company, on the other hand, shall be mutually exclusive, and each such right, power or remedy shall be cumulative and in addition to every other right, power or remedy, whether conferred by this Agreement or now or hereafter available at law, in equity, by statute or otherwise.

9.04 Successors and Assigns. All the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective parties hereto, the successors and permitted assigns of each Purchaser and the successors of the Company, whether so expressed or not. None of the Purchasers may assign its rights or obligations hereof without the prior written consent of the Company, except that a Purchaser may, without the prior consent of the Company, assign its rights to purchase the Securities hereunder to any of its affiliates or to any other investment funds or accounts managed or advised by the investment manager who acts on behalf of Purchaser (provided each such assignee agrees to be bound by the terms of this Agreement and makes the same representations and warranties set forth in Section 3 hereof). The Company may not assign its rights or obligations hereof without the consent of each Purchaser. This Agreement shall not inure to the benefit of or be enforceable by any other person except as expressly set forth herein.

9.05 Exculpation of Placement Agents. Each party hereto agrees for the express benefit of each of the Placement Agents, its affiliates and its representatives that:

i. Each of the Placement Agents is acting solely as placement agent to the Company in connection with the sale of the Securities and is not acting as an underwriter or in any other capacity and is not and shall not be construed as a fiduciary for the Purchaser, the Company or any other person or entity in connection with the sale of Securities.

ii. No Placement Agent or any of its affiliates or any of its representatives (a) shall be liable for any improper payment made in accordance with the information provided by the Company, (b) has made or will make any representation or warranty, express or implied, of any kind or character, and has not provided any advice or recommendation to the Purchasers in connection with the purchase or sale of the Securities, (c) has any responsibilities as to the validity, accuracy, completeness, value or genuineness, as of any date, of any information, certificates or documentation delivered by or on behalf of the Company pursuant to this Agreement or the Merger Agreement, or in connection with any of the transactions contemplated by such agreements, including any valuation, offering or marketing materials, or any omissions from such materials; or (d) shall be

liable or have any obligation (including without limitation, for or with respect to any losses, claims, damages, obligations, penalties, judgments, awards, liabilities, costs, expenses or disbursements incurred by the Purchaser, the Company or any other person or entity), whether in contract, tort or otherwise to the Purchaser or to any person claiming through the Purchaser, (x) for any action taken, suffered or omitted by any of them in good faith and reasonably believed to be authorized or within the discretion or rights or powers conferred upon it by this Agreement or the Merger Agreement, (y) for anything which any of them may do or refrain from doing in connection with this Agreement or the Merger Agreement, except for such Person's own gross negligence, willful misconduct or bad faith, or (z) for anything otherwise in connection with the purchase and sale of the Securities.

iii. The Placement Agents, their respective affiliates and their respective representatives shall be entitled to rely on, and shall be protected in acting upon, any certificate, instrument, opinion, notice, letter or any other document or security delivered to any Placement Agent or any Purchaser by or on behalf of the Company.

9.06 Headings. The headings of the Sections and paragraphs of this Agreement have been inserted for convenience of reference only and do not constitute a part of this Agreement.

9.07 Governing Law; Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, regardless of the laws that might otherwise govern under applicable principles of conflicts of laws. IN ANY ACTION OR PROCEEDING BETWEEN ANY OF THE PARTIES ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OF THE CONTEMPLATED TRANSACTIONS, EACH OF THE PARTIES: (I) IRREVOCABLY AND UNCONDITIONALLY CONSENTS AND SUBMITS TO THE EXCLUSIVE JURISDICTION AND VENUE OF THE COURT OF CHANCERY OF THE STATE OF DELAWARE OR, TO THE EXTENT SUCH COURT DOES NOT HAVE SUBJECT MATTER JURISDICTION, THE SUPERIOR COURT OF THE STATE OF DELAWARE OR THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE, (II) AGREES THAT ALL CLAIMS IN RESPECT OF SUCH ACTION OR PROCEEDING SHALL BE HEARD AND DETERMINED EXCLUSIVELY IN ACCORDANCE WITH CLAUSE (I) OF THIS SECTION 9.07, (III) WAIVES ANY OBJECTION TO LAYING VENUE IN ANY SUCH ACTION OR PROCEEDING IN SUCH COURTS, (IV) WAIVES ANY OBJECTION THAT SUCH COURTS ARE AN INCONVENIENT FORUM OR DO NOT HAVE JURISDICTION OVER ANY PARTY, (V) AGREES THAT SERVICE OF PROCESS UPON SUCH PARTY IN ANY SUCH ACTION OR PROCEEDING SHALL BE EFFECTIVE IF NOTICE IS GIVEN IN ACCORDANCE WITH SECTION 9.02 OF THIS AGREEMENT AND (VI) IRREVOCABLY WAIVES THE RIGHT TO TRIAL BY JURY.

9.08 Survival. The representations and warranties of the Purchasers and the Company contained in Sections 3 and 4, respectively, and the agreements and covenants set forth in Sections 5 and 9 shall survive the Closing for the applicable statute of limitations (unless such covenant or agreement terminates earlier in accordance with its terms), which shall not be extended by Section 8106(c) of Title 10 of the Delaware Code or any similar law. Each Purchaser shall be responsible only for its own representations, warranties, agreements and covenants hereunder.

9.09 Counterparts; Effectiveness. This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, with the same effect as if all parties had signed the same document. All such counterparts (including counterparts delivered by facsimile, e-mail or other electronic format) shall be deemed an original, shall be construed together and shall constitute one and the same instrument. This Agreement shall become effective when each party hereto shall have received counterparts hereof signed by all of the other parties hereto.

9.10 Entire Agreement. This Agreement contains the entire agreement among the parties hereto with respect to the subject matter hereof and, except as set forth below, this agreement supersedes and replaces all other prior agreements, written or oral, among the parties hereto with respect to the subject matter hereof.

Notwithstanding the foregoing or anything to the contrary in this Agreement and subject to Section 5.02, this Agreement shall not supersede any confidentiality or other non-disclosure agreements that may be in place between the Company and any Purchaser as of the date hereof.

9.11 Severability. If any provision of this Agreement shall be found by any court of competent jurisdiction to be invalid or unenforceable, the parties hereby waive such provision to the extent that it is found to be invalid or unenforceable. Such provision shall, to the maximum extent allowable by law, be modified by such court so that it becomes enforceable, and, as modified, shall be enforced as any other provision hereof, all the other provisions hereof continuing in full force and effect.

9.12 Independent Nature of Purchasers' Obligations and Rights. The obligations of each Purchaser under this Agreement are several and not joint with the obligations of any other Purchaser, and no Purchaser shall be responsible in any way for the performance of the obligations of any other Purchaser under this Agreement. Nothing contained herein, and no action taken by any Purchaser pursuant hereto, shall be deemed to constitute the Purchasers as, and the Company acknowledges that the Purchasers do not so constitute, a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Purchasers are in any way acting in concert or as a group, and the Company will not assert any such claim with respect to such obligations or the transactions contemplated by this Agreement, and the Company acknowledges that the Purchasers are not acting in concert or as a group with respect to such obligations or the transactions contemplated by this Agreement. The Company acknowledges and each Purchaser confirms that it has independently participated in the negotiation of the transaction contemplated hereby with the advice of its own counsel and advisors. Each Purchaser shall be entitled to independently protect and enforce its rights, including, without limitation, the rights arising out of this Agreement, and it shall not be necessary for any other Purchaser to be joined as an additional party in any proceeding for such purpose. The Company has elected to provide all Purchasers with the same terms for the convenience of the Company and not because it was required or requested to do so by any Purchaser.

9.13 Termination. This Agreement shall terminate and be void and of no further force and effect, and all obligations of the parties hereunder shall terminate without any further liability on the part of any party in respect thereof, upon the earlier to occur of (i) such date and time that the Merger Agreement is terminated in accordance with its terms, (ii) upon the mutual written agreement of the Company and the Purchasers, (iii) if, on the Closing Date, any of the conditions of Closing set forth in Section 6 have not been satisfied as of the time required hereunder to be so satisfied or waived by the party entitled to grant such waiver and, as a result thereof, the transactions contemplated by this Agreement are not consummated, or (iv) if the Closing has not occurred on or before January 17, 2024, other than as a result of a Willful Breach of a Purchaser's obligations hereunder; provided, however, that nothing herein shall relieve any party to this Agreement of any liability for common law fraud or for any Willful Breach of any representation, warranty, covenant, obligation or other provision contained in this Agreement. "***Willful Breach"*** means a deliberate act or deliberate failure to act, taken with the actual knowledge that such act or failure to act would result in or constitute a material breach of this Agreement. The Company shall notify each Purchaser of any termination of the Merger Agreement promptly after the termination thereof. Upon the termination hereof in accordance with this Section 9.13, any amounts paid by a Purchaser to the Company in connection with the transactions contemplated herein shall promptly (and in any event within one Business Day) be returned in full to such Purchaser by wire transfer of immediately available funds to the account specified by such Purchaser, without any deduction for or on account of any tax withholding, charges or set-off, whether or not the transactions shall have been consummated.

9.14 No Third-Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person; provided, however, that each of the Placement Agents will be entitled to rely, as an express third-party beneficiary, on the representations and warranties of the Purchasers and the Company set forth in Sections 3 and 4, respectively, and the agreements and covenants set forth in Sections 5, 9.04, 9.05, 9.08, 9.12 and 9.13.

[*Signature pages follow*]

IN WITNESS WHEREOF, the parties hereto have caused this Subscription Agreement to be duly executed as of the Effective Date.

NEUROGENE INC.

By: _____
Name: Christine Mikail
Title: President and Chief Financial Officer

[●]

By: _____
Name:
Title:

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Exhibit A

Form of Pre-Funded Warrant

NEUROGENE INC.

FORM OF PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK

Number of Shares: [ ]
(subject to adjustment)

Warrant No. Original Issue Date: [ ], 2023

Neurogene Inc., a Delaware corporation (the "*Company*"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [ ] or its registered assigns (the "*Holder*"), is entitled, subject to the terms set forth below, to purchase from the Company up to a total of [ ] shares of common stock, $0.000001 par value per share (the "*Common Stock*"), of the Company (each such share, a "*Warrant Share*" and all such shares, the "*Warrant Shares*") at an exercise price per share equal to $0.000001 per share (as adjusted from time to time as provided in Section 9 herein, the "*Exercise Price*"), upon surrender of this Warrant to Purchase Common Stock (the "*Warrant*" (which, for the avoidance of doubt, shall include any New Warrant (as defined below))) at any time and from time to time on or after the date hereof (the "*Original Issue Date*"), subject to the following terms and conditions:

1. Definitions. For purposes of this Warrant, the following terms shall have the following meanings:

(a) "*Affiliate*" means any Person directly or indirectly controlled by, controlling or under common control with, a Holder, but only for so long as such control shall continue. For purposes of this definition, "control" (including, with correlative meanings, "controlled by", "controlling" and "under common control with") means, with respect to a Person, possession, direct or indirect, of (a) the power to direct or cause direction of the management and policies of such Person (whether through ownership of securities or partnership or other ownership interests, by contract or otherwise), or (b) at least 50% of the voting securities (whether directly or pursuant to any option, warrant or other similar arrangement) or other comparable equity interests.

(b) "*Commission*" means the United States Securities and Exchange Commission.

(c) "*Closing Sale Price*" means, for any security as of any date, the last trade price for such security on the Principal Trading Market for such security, as reported by Bloomberg Financial Markets, or, if such Principal Trading Market begins to operate on an extended hours basis and does not designate the last trade price, then the last trade price of such security prior to 4:00 P.M., New York City time, as reported by Bloomberg Financial Markets, or if the foregoing do not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg Financial Markets (such time, the "*Close of Trading*"). If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined in good faith by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then the Board of Directors of the Company shall use its good faith judgment to determine the fair market value. The Board of Directors' determination shall be binding upon all parties absent demonstrable error. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(d) "*Principal Trading Market*" means the national securities exchange or other trading market on which the Common Stock is primarily listed on and quoted for trading, which, as of the Original Issue Date, shall be the Nasdaq Capital Market.

(e) "*Securities Act*" means the Securities Act of 1933, as amended.

(f) "*Trading Day*" means any weekday on which the Principal Trading Market is normally open for trading.

(g) "*Transfer Agent*" means [American Stock Transfer & Trust Company, LLC], the Company's transfer agent and registrar for the Common Stock, and any successor appointed in such capacity.

2. Warrant Register. The Company shall register ownership of this Warrant, upon records to be maintained by the Company for that purpose (the "*Warrant Register*"), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any assignee to which this Warrant is assigned hereunder) from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

3. Registration of Transfers. Subject to compliance with all applicable securities laws, the Company shall, or will cause its Transfer Agent to, register the transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, and payment for all applicable transfer taxes (if any). Upon any such registration or transfer, a new warrant to purchase Common Stock in substantially the form of this Warrant (any such new warrant, a "*New Warrant*") evidencing the portion of this Warrant so transferred shall be issued to the transferee, and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder has in respect of this Warrant. The Company shall, or will cause its Transfer Agent to, prepare, issue and deliver at the Company's own expense any New Warrant under this Section 3. Until due presentment for registration of transfer, the Company may treat the registered Holder hereof as the owner and holder for all purposes, and the Company shall not be affected by any notice to the contrary.

4. Exercise and Duration of Warrants.

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by this Warrant at any time and from time to time on or after the Original Issue Date.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached as Schedule 1 hereto (the "*Exercise Notice*"), completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised (which may take the form of a "cashless exercise" if so indicated in the Exercise Notice pursuant to Section 10 below), and the date on which the last of such items is delivered to the Company (as determined in accordance with the notice provisions hereof) is an "*Exercise Date*." The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to purchase the remaining number of Warrant Shares, if any. The aggregate exercise price of this Warrant, except for the Exercise Price, was pre-funded to the Company on or before the Original Issue Date, and consequently no additional consideration (other than the Exercise Price) shall be required by to be paid by the Holder to effect any exercise of this Warrant. The Holder shall not be entitled to the return or refund of all, or any portion, of such pre-funded exercise price under any circumstance or for any reason whatsoever.

5. Delivery of Warrant Shares.

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than three (3) Trading Days after the Exercise Date), upon the request of the Holder, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with The Depository Trust Company ("*DTC*") through its Deposit Withdrawal Agent Commission system, or if the Transfer Agent is not participating in the Fast Automated Securities Transfer Program (the "*FAST Program*") or if the certificates are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the

Holder is entitled pursuant to such exercise. The Holder, DTC (or its nominee) or any natural person or legal entity (each, a "*Person*") so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be.

(b) If by the close of trading on the third (3rd) Trading Day after the Exercise Date, the Company fails to deliver to the Holder a certificate representing the required number of Warrant Shares in the manner required pursuant to Section 5(a) or fails to credit the Holder's balance account with DTC for such number of Warrant Shares to which the Holder is entitled, and if after such third (3rd) Trading Day and prior to the receipt of such Warrant Shares, the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "*Buy-In*"), then the Company shall, within three (3) Trading Days after the Holder's request promptly honor its obligation to deliver to the Holder a certificate or certificates representing such Warrant Shares and pay cash to the Holder in an amount equal to the excess (if any) of Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased in the Buy-In less the product of (A) the number of shares of Common Stock purchased in the Buy-In, times (B) the Closing Sale Price of a share of Common Stock on the Exercise Date.

(c) To the extent permitted by law and subject to Section 5(b), the Company's obligations to issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Subject to Section 5(b), nothing herein shall limit the Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver certificates representing shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

6. Charges, Taxes and Expenses. Issuance and delivery of certificates for shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, transfer agent fee or other incidental tax or expense (excluding any applicable stamp duties) in respect of the issuance of such certificates, all of which taxes and expenses shall be paid by the Company; *provided*, *however*, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or the Warrants in a name other than that of the Holder or an Affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. Replacement of Warrant. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction (in such case) and, in each case, a customary and reasonable indemnity, if requested by the Company. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company's obligation to issue the New Warrant.

8. Reservation of Warrant Shares. The Company covenants that it will, at all times while this Warrant is outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this

Warrant as herein provided, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and non-assessable. The Company will take all such action as may be reasonably necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed. The Company further covenants that it will not, without the prior written consent of the Holder, take any actions to increase the par value of the Common Stock at any time while this Warrant is outstanding.

9. Certain Adjustments. The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section 9.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock issued and outstanding on the Original Issue Date and in accordance with the terms of such stock on the Original Issue Date (or as amended) that is payable in shares of Common Stock, (ii) subdivides its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the Exercise Price shall be multiplied by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the Exercise Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Exercise Price shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination.

(b) Pro Rata Distributions. If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph) or (iii) rights or warrants to subscribe for or purchase any security, or (iv) cash or any other asset (in each case, "*Distributed Property*"), then, upon any exercise of this Warrant that occurs after the record date fixed for determination of stockholders entitled to receive such distribution, the Holder shall be entitled to receive, in addition to the Warrant Shares otherwise issuable upon such exercise (if applicable), the Distributed Property that such Holder would have been entitled to receive in respect of such number of Warrant Shares had the Holder been the record holder of such Warrant Shares immediately prior to such record date without regard to any limitation on exercise contained therein. The company covenants that it will, at all times, while this Warrant is outstanding, reserve and keep available all Distributed Property that the Holder shall be entitled to receive hereunder, solely for the purpose of fulfilling its obligations pursuant to this Section 9(b).

(c) Fundamental Transactions. If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity and in which the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity immediately after such merger or consolidation, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one transaction or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts

such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company (except for any such transaction in which the stockholders of the Company immediately prior to such transaction maintain, in substantially the same proportions, the voting power of such Person immediately after the transaction) or (v) the Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a "*Fundamental Transaction*"), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant without regard to any limitations on exercise contained herein (the "*Alternate Consideration*"). The Company shall not effect any Fundamental Transaction in which the Company is not the surviving entity or the Alternate Consideration includes securities of another Person unless (x) the Alternate Consideration is solely cash and the Company provides for the simultaneous "cashless exercise" of this Warrant pursuant to Section 10 below or (y) prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or other Person (including any purchaser of assets of the Company) shall assume the obligation to deliver to the Holder such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to receive, and the other obligations under this Warrant. The provisions of this paragraph (c) shall similarly apply to subsequent transactions analogous of a Fundamental Transaction type.

(d) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to Section 9, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the increased or decreased number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment.

(e) Calculations. All calculations under this Section 9 shall be made to the nearest one-tenth of one cent or the nearest share, as applicable.

(f) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Company's transfer agent.

(g) Notice of Corporate Events. If, while this Warrant is outstanding, the Company (i) declares a dividend or any other distribution of cash, securities or other property in respect of its Common Stock, including, without limitation, any granting of rights or warrants to subscribe for or purchase any capital stock of the Company or any subsidiary, (ii) authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction or (iii) authorizes the voluntary dissolution, liquidation or winding up of the affairs of the Company, then, the Company shall deliver to the Holder a notice of such transaction at least ten (10) days prior to the applicable record and effective date on which a Person would need to hold Common Stock in order to participate in or vote with respect to such transaction; *provided, however*, that the failure to deliver such notice or any defect therein shall not affect the validity of the corporate action required to be described in such notice (but the Company shall remain liable to the Holder for any damages resulting therefrom). In addition, if while this Warrant is outstanding, the Company authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction contemplated by

Section 9(c), other than a Fundamental Transaction under clause (iii) of Section 9(c), the Company shall deliver to the Holder a notice of such Fundamental Transaction at least thirty (30) days prior to the date such Fundamental Transaction is consummated. Holder agrees to maintain any information disclosed pursuant to this Section 9(g) in confidence until such information is publicly available, and shall comply with applicable law with respect to trading in the Company's securities following receipt any such information.

10. Payment of Exercise Price. Notwithstanding anything contained herein to the contrary, the Holder may, in its sole discretion, satisfy its obligation to pay the Exercise Price through a "cashless exercise", in which event the Company shall issue to the Holder the number of Warrant Shares in an exchange of securities effected pursuant to Section 3(a)(9) of the Securities Act, as determined as follows:

$$X = Y [(A-B)/A]$$

where:

"X" equals the number of Warrant Shares to be issued to the Holder;

"Y" equals the total number of Warrant Shares with respect to which this Warrant is then being exercised;

"A" equals the Closing Sale Prices of the shares of Common Stock (as reported by Bloomberg Financial Markets) as of the Trading Day on the date immediately preceding the Exercise Date; and

"B" equals the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in a "cashless exercise" transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise). In the event that a registration statement registering the issuance of Warrant Shares is, for any reason, not effective at the time of exercise of this Warrant, then the Warrant may only be exercised through a cashless exercise, as set forth in this Section 10. Except as set forth in Section 5(b) (Buy-In remedy) and Section 12 (payment of cash in lieu of fractional shares), in no event will the exercise of this Warrant be settled in cash.

11. Limitations on Exercise.

(a) Notwithstanding anything to the contrary contained herein, the Company shall not effect any exercise of this Warrant, and the Holder shall not be entitled to exercise this Warrant for a number of Warrant Shares in excess of that number of Warrant Shares which, upon giving effect or immediately prior to such exercise, would cause (i) the aggregate number of shares of Common Stock beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (such as any other members of a Section 13(d) "group"), to exceed 9.99% (the "*Maximum Percentage*") of the total number of issued and outstanding shares of Common Stock of the Company following such exercise, or (ii) the combined voting power of the securities of the Company beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (such as any other members of a Section 13(d) "group") to exceed 9.99% of the combined voting power of all of the securities of the Company then outstanding following such exercise. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company's most recent Form 10-Q or Form 10-K, as the case may be, filed with the Commission prior to the date hereof, (y) a more recent public announcement by the Company or (z) any other notice by the Company or its transfer agent setting forth the number of shares of Common Stock

outstanding. Upon the written request of the Holder, the Company shall within two (2) Trading Days confirm in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 19.99% specified in such notice; provided that any such increase will not be effective until the sixty first (61st) day after such notice is delivered to the Company. For purposes of this Section 11(a), the aggregate number of shares of Common Stock or voting securities beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (such as any other members of a Section 13(d) "group") shall include the shares of Common Stock issuable upon the exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) exercise of the remaining unexercised and non-cancelled portion of this Warrant by the Holder and (B) exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Company that do not have voting power (including without limitation any securities of the Company which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), is subject to a limitation on conversion or exercise analogous to the limitation contained herein and is beneficially owned by the Holder or any of its Affiliates and other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (such as any other members of a Section 13(d) "group").

(b) This Section 11 shall not restrict the number of shares of Common Stock which a Holder may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction as contemplated in Section 9(c) of this Warrant.

12. No Fractional Shares. No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the number of Warrant Shares to be issued shall be rounded down to the next whole number and the Company shall pay the Holder in cash the fair market value (based on the Closing Sale Price) for any such fractional shares.

13. Notices. Any and all notices or other communications or deliveries hereunder (including, without limitation, any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (a) the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent prior to 5:30 P.M., New York City time, on a Trading Day, (b) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent on a day that is not a Trading Day or later than 5:30 P.M., New York City time, on any Trading Day, (c) the Trading Day following the date of mailing, if sent by nationally recognized overnight courier service specifying next business day delivery, or (d) upon actual receipt by the Person to whom such notice is required to be given, if by hand delivery.

14. Warrant Agent. The Company shall initially serve as warrant agent under this Warrant. Upon thirty (30) days' notice to the Holder, the Company may appoint a new warrant agent. Any corporation into which the Company or any new warrant agent may be merged or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or shareholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder's last address as shown on the Warrant Register.

15. Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to seek specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

16. Miscellaneous.

(a) No Rights as a Stockholder. The Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, amalgamation, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

(b) Authorized Shares. (i) Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate or articles of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (A) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (B) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and non-assessable Warrant Shares upon the exercise of this Warrant, and (C) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

(ii) Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(c) Successors and Assigns. Subject to compliance with applicable securities laws, this Warrant may be assigned by the Holder. This Warrant may not be assigned by the Company without the written consent of the Holder, except to a successor in the event of a Fundamental Transaction. This Warrant shall be binding on and inure to the benefit of the Company and the Holder and their respective successors and assigns. Subject to the preceding sentence, nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy or cause of action under this Warrant. This Warrant may be amended only in writing signed by the Company and the Holder, or their successors and assigns.

(d) Amendment and Waiver. Except as otherwise provided herein, the provisions of the Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

(e) Acceptance. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF VIA REGISTERED OR CERTIFIED MAIL OR OVERNIGHT DELIVERY (WITH EVIDENCE OF DELIVERY) TO SUCH PERSON AT THE ADDRESS IN EFFECT FOR NOTICES TO IT AND AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

(g) Headings. The headings herein are for convenience only, do not constitute a part of this Warrant and shall not be deemed to limit or affect any of the provisions hereof.

(h) Severability. In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby, and the Company and the Holder will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

(i) Interpretation. For purposes of this Warrant, (i) the words “include,” “includes” and “including” are deemed to be followed by the words “without limitation”; (ii) the word “or” is not exclusive; and (iii) the words “herein,” “hereof,” “hereby,” “hereto” and “hereunder” refer to this Warrant as a whole. Unless the context otherwise requires, references herein: (x) to sections and schedules mean the sections of, and schedules attached to, this Warrant; (y) to an agreement, instrument, or other document means such agreement, instrument, or other document (as amended, supplemented and modified from time to time to the extent permitted by the provisions thereof/without regard to subsequent amendments, supplements, and modifications thereto); and (z) to a statute means such statute (as amended from time to time and includes/enforced at the time and date of this Warrant becoming effective) and does not include any successor legislation thereto and any regulations promulgated thereunder. This Warrant shall be construed without regard to any presumption or rule requiring construction or interpretation against the party drafting an instrument or causing any instrument to be drafted. The schedules referred to herein shall be construed with, and as an integral part of, this Warrant to the same extent as if they were set forth verbatim herein. All references to “$” or “dollars” mean the lawful currency of the United States of America. Whenever the singular is used in this Warrant, the same shall include the plural, and whenever the plural is used herein, the same shall include the singular, where appropriate.

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IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

NEUROGENE INC.

By: _____
Name:
Title:

SCHEDULE 1

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

Ladies and Gentlemen:

(1) The undersigned is the Holder of Warrant No. (the "*Warrant*") issued by Neurogene Inc., a Delaware corporation (the "*Company*"). Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant.

(2) The undersigned hereby exercises its right to purchase Warrant Shares pursuant to the Warrant.

(3) The Holder intends that payment of the Exercise Price shall be made as (check one):

☐ Cash Exercise

☐ "Cashless Exercise" under Section 10 of the Warrant

(4) If the Holder has elected a Cash Exercise, the Holder shall pay the sum of $ in immediately available funds to the Company in accordance with the terms of the Warrant.

(5) Pursuant to this Exercise Notice, the Company shall deliver to the Holder Warrant Shares determined in accordance with the terms of the Warrant.

(6) By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended) permitted to be owned under Section 11(a) of the Warrant to which this notice relates.

Dated: _____

Name of Holder: _____

By: _____

Name: _____

Title: _____

(Signature must conform in all respects to name of Holder as specified on the face of the Warrant)

Exhibit D

FORM OF CONTINGENT VALUE RIGHTS AGREEMENT

THIS CONTINGENT VALUE RIGHTS AGREEMENT (this "**Agreement**"), dated as of _____, 2023, is entered into by and among Neoleukin Therapeutics, Inc., a Delaware corporation (the "**Company**"), [Rights Agent], as the Rights Agent, and [_____] as the Lease Representative.

RECITALS

WHEREAS, the Company, Project North Merger Sub, Inc., a Delaware corporation ("**Merger Sub**"), and Neurogene Inc., a Delaware corporation ("**Neurogene**"), have entered into an Agreement and Plan of Merger, dated as of July 17, 2023 (the "**Merger Agreement**"), pursuant to which Neurogene will merge with and into Merger Sub and become a wholly-owned subsidiary of the Company (the "**Merger**");

WHEREAS, pursuant to the Merger Agreement, and in accordance with the terms and conditions thereof, the Company has agreed to provide to the Holders (as defined herein) contingent value rights as hereinafter described; and

WHEREAS, the Parties have done all things reasonably necessary to make the contingent value rights, when issued pursuant to the Merger Agreement and hereunder, the valid obligations of the Company and to make this Agreement a valid and binding agreement of the Company, in accordance with its terms.

NOW, THEREFORE, in consideration of the premises and the consummation of the transactions referred to above, it is mutually covenanted and agreed, for the proportionate benefit of all Holders, as follows:

ARTICLE 1

DEFINITIONS

Section 1.1 Definitions. Capitalized terms used but not otherwise defined herein have the meanings ascribed thereto in the Merger Agreement. The following terms have the meanings ascribed to them as follows:

"**Acting Holders**" means, at the time of determination, the Holders of more than 30% of the outstanding CVRs, as reflected on the CVR Register.

"**Calendar Half**" means the successive periods of six consecutive calendar months ending on June 30 or December 31, for so long as this Agreement is in effect; *provided*, *however*, that (a) the first Calendar Half shall commence on the date of this Agreement and shall end on [December 31, 2023], and (b) the last Calendar Half shall commence on the first day after the full Calendar Half immediately preceding the effective date of the termination or expiration of this Agreement and shall end on the effective date of the termination or expiration of this Agreement.

"**Calendar Quarter**" means the successive periods of three consecutive calendar months ending on March 31, June 30, September 30 or December 31, for so long as this Agreement is in effect; *provided*, *however*, that (a) the first Calendar Quarter shall commence on the date of this Agreement and shall end on [December 31, 2023], and (b) the last Calendar Quarter shall commence on the first day after the full Calendar Quarter

immediately preceding the effective date of the termination or expiration of this Agreement and shall end on the effective date of the termination or expiration of this Agreement.

"**Common Stock**" means the common stock, $0.000001 par value, of the Company.

"**CVR**" means a contingent contractual right of Holders to receive CVR Payments pursuant to this Agreement.

"**CVR Cash Payment**" means, in a given Calendar Quarter, a cash payment equal to (i) the Net Proceeds (if any) received by the Company (subject to the first proviso in the definition for the term "CVR Payment" herein), *plus* (ii) the Lease CVR Amount (if applicable).

"**CVR Payment**" means any CVR Cash Payment or CVR Stock Payment; *provided* that the Company, in its reasonable discretion as resolved by the Company's Board of Directors, may withhold up to 15% of any CVR Payment to provide for the satisfaction of (a) indemnity obligations under any Disposition Agreement in excess of any escrow fund established therein, in each case to the extent not already deducted as Permitted Deductions and (b) any Loss arising out of any third-party claims, demands, actions, or other proceedings relating to or in connection with any Potentially Transferable Assets during the CVR Term; *provided*, *further*, that any such withheld Net Proceeds shall be distributed (net of any Permitted Deductions satisfied therefrom) to the Holders no later than three years following the date such Net Proceeds would have otherwise been distributed to the Holders in the CVR Payment from which such Net Proceeds were otherwise deducted; *provided*, *further*, that, such withholding shall not be permitted (and any remaining amounts withheld shall be distributed to the Holders) if (i) the applicable indemnification period under the applicable Disposition Agreement related to such CVR Payment has expired by its terms or (ii) the maximum aggregate liability in respect of the applicable indemnification obligations has been held back or setoff (including any amounts deposited in escrow) by the purchaser or acquiror under the applicable Disposition Agreement.

"**CVR Payment Amount**" means with respect to each CVR Payment and each Holder, an amount equal to such CVR Payment divided by the total number of CVRs and then multiplied by the total number of CVRs held by such Holder as reflected on the CVR Register at the time of such CVR Payment.

"**CVR Payment Period**" means (a) a period equal to a Calendar Quarter ending at any time after the effective date of a Disposition Agreement or a Lease Termination, (b) in the case of a CVR Payment arising in connection with a Lease Sublease CVR, a period equal to a Calendar Half or (c) in the case of a CVR Payment arising in connection with clause (c) of the definition of Gross Proceeds, the first Calendar Quarter in which such CVR Payment and any other CVR Payment is payable, provided that such CVR Payment arising in connection with clause (c) of the definition of Gross Proceeds shall be distributed within three years of becoming payable regardless of whether any other CVR Payment is distributed during that time.

"**CVR Payment Statement**" means, for a given CVR Payment Period during the CVR Term, a written statement of the Company, signed on behalf of the Company, setting forth in reasonable detail the calculation of the applicable CVR Payment for such CVR Payment Period.

"**CVR Stock Payment**" means a number of shares of Common Stock equal to the quotient determined by dividing (a) the sum of (i) the applicable Lease CVR Amount, *plus* (ii) the Net Proceeds received by the Company in a given Calendar Quarter (subject to the first proviso in the definition for the term "CVR Payment" herein) by (b) the volume weighted average price of the Common Stock for the five trading days ending the day prior to the date of issuance of the shares comprising the CVR Stock Payment.

"**CVR Term**" means the period beginning on the Closing and ending on the Expiration Date.

"**Disposition**" means the sale, license, transfer or other disposition (including any disposition providing for milestone payments, royalty payments or similar payments received pursuant to licensing arrangements or

strategic partnerships) of any Potentially Transferable Asset (including any such sale or disposition of equity securities in any Subsidiary established by the Company to hold any right, title or interest in or to any Potentially Transferable Asset).

"**Disposition Agreement**" means a definitive written agreement providing for a transaction or series of transactions between the Company or its Affiliates and any Person who is not an Affiliate of the Company regarding a Disposition and either (a) entered into prior to date hereof and set forth on Schedule 1.1 hereto (a "**Pre-Closing Disposition**"), or (b) entered into during the Disposition Period (a "**Post-Closing Disposition**"). For clarity, any agreement providing for a Disposition that is entered into after the first anniversary of the Closing Date shall not be a "Disposition Agreement."

"**Disposition Period**" means the period beginning on the Closing Date and ending 12 months thereafter.

"**Expiration Date**" means June 30, 2029.

"**Gross Proceeds**" means, without duplication, the sum of (a) 100% of all cash consideration and the actual liquidation value of any and all non-cash consideration of any kind that is paid to the Company or any of its Affiliates, or is actually received by, the Company or any of its Affiliates during the CVR Term pursuant to a Pre-Closing Disposition (i.e., relating to Disposition Agreements entered into prior to the Closing Date), (b) 80% of all cash consideration and the actual liquidation value of any and all non-cash consideration of any kind that is paid to the Company or any of its Affiliates, or is actually received by, the Company or any of its Affiliates during the CVR Term pursuant to a Post-Closing Disposition (i.e., relating to Disposition Agreements entered into during the 12-month Disposition Period after the Closing Date), and (c) 100% of any Tax refunds received by the Company during the CVR Term relating to Tax Returns filed by the Company prior to the Closing Date. The value of any securities (whether debt or equity) or other non-cash property received as consideration under a Disposition Agreement shall be determined based on the actual realized value on the subsequent sale of such securities or property (net of selling expenses and taxes, if any). Such securities and other non-cash consideration shall not be deemed to constitute "Gross Proceeds" until the subsequent sale of such securities or other property, which sale the Company and its Affiliates shall consummate as soon as reasonably practicable when market conditions, and any restrictions on transfer, permit with respect to such securities or other property.

"**Holder**" means, at the relevant time, a Person in whose name CVRs are registered in the CVR Register.

"**Lease Agreements**" means:

(a) that certain Lease Agreement by and between the Company and ARE-Eastlake Avenue No. 3, LLC, dated December 23, 2019, as amended by that certain First Amendment to Lease by and between the Company and ARE-Seattle No. 28, LLC, dated November 5, 2020, for 188 East Blaine Street, Seattle, WA 98102; and

(b) that certain Lease Agreement by and between the Company and ARE-Eastlake Avenue No. 3, LLC, dated September 23, 2019, as amended by that certain First Amendment to Lease by and between the Company and ARE-Eastlake Avenue No. 3, LLC, dated June 18, 2020, and that certain Second Amendment to Lease by and between the Company and ARE-Eastlake Avenue No. 3, LLC, dated March 16, 2021, for 1616 Eastlake Avenue East, Seattle, Washington 98102.

"**Lease CVR Amount**" means, for any CVR Payment Period, an amount calculated as follows:

(a) if either Lease Agreement is terminated or assigned to a third party following the Closing with no continuing payment or other obligations (excluding, for the avoidance of doubt, any reasonable and customary obligations with respect to customary warranties and similar obligations of a transferor or sublessor pursuant to which no payments (other than *de minimis* administrative and similar payments) are then reasonably anticipated) on the part of the Company (a "**Lease Termination**") and such Lease

Termination reduces the Company's liabilities below 100% of the Remaining Financial Obligations, then an amount equal to (x) 100% of the amount by which the aggregate value of the expected financial obligations under such Lease Termination is less than the Remaining Financial Obligations, *minus* (y) any amounts payable by the Company associated with such Lease Termination, including, for the avoidance of doubt, any expenses incurred in excess of the Lease Negotiation Holdback arising in connection with the engagement of the Lease Representative or other third party ("**Lease Representative Expenses**") to the extent such Lease Representative Expenses have not been previously offset from the final determination of Net Cash in accordance with the Merger Agreement; provided, that, such expenses shall not include any expenses paid to any broker, advisor or representative that is engaged by the Company without the prior consent of the Lease Representative (such consent not to be unreasonably withheld, conditioned or delayed) (a "**Lease Termination CVR**"), or

(b) if prior to or following the Closing, either Lease Agreement is assigned to a third party or subleased, in either case other than pursuant to a Lease Termination (a "**Sublease/Partial Assignment**"), then, for the period of time beginning on the Closing and ending on the Expiration Date, an amount equal to (w) the sublease payments actually paid by the subtenant to the Lessor or to the Company during any Calendar Half, *minus* (x) the amount paid by the Company to the Lessor during such Calendar Half, *minus* (y) any expenses associated with the Sublease/Partial Assignment (without duplication), including any Lease Representative Expenses (without duplication) to the extent such Lease Representative Expenses have not been previously offset from the final determination of Net Cash in accordance with the Merger Agreement; provided, that, such expenses shall not include any expenses paid to any broker, advisor or representative that is engaged by the Company without the prior consent of the Lease Representative such consent not to be unreasonably withheld, conditioned or delayed) (a "**Lease Sublease CVR**"); *provided*, that in no event shall the aggregate value of any amounts paid pursuant to clause (b) exceed an amount equal to the Remaining Financial Obligations.

"**Lease Representative**" means [_____] and [his/her] successors appointed in accordance with Section 4.6.

"**Lessor**" means the "Landlord" as defined in each of the Lease Agreements.

"**Net Proceeds**" means, for any CVR Payment Period, Gross Proceeds minus Permitted Deductions, all as calculated, to the extent in accordance with GAAP, in a manner consistent with the Company's accounting practices and the most recently filed annual audited financial statements with the SEC, except as otherwise set forth herein. For clarity, to the extent Permitted Deductions exceed Gross Proceeds for any CVR Payment Period, any excess Permitted Deductions shall be applied against Gross Proceeds in subsequent CVR Payment Periods.

"**Officer's Certificate**" means a certificate signed by the chief executive officer and the chief financial officer of the Company, in their respective official capacities.

"**Party**" means the Company or the Rights Agent.

"**Permitted Deductions**" means the sum of:

(a) any applicable Tax (including any applicable value added or sales taxes) imposed on Gross Proceeds and payable by the Company or any of its Affiliates (regardless of whether the due date for such Taxes arises during or after the Disposition Period) and, without duplication, any income or other similar Taxes payable by the Company or any of its Affiliates that would not have been incurred by the Company or any of its Affiliates but for the Gross Proceeds; *provided* that, for purposes of calculating income Taxes incurred by the Company or its Affiliates in respect of the Gross Proceeds, any such income Taxes shall be computed based on the gain recognized by the Company or its Affiliates from the Disposition after reduction for any net operating loss carryforwards or other Tax attributes of the Company or its Affiliates as of the Closing Date that are available to offset such gain after taking into account any limits of the usability

of such attributes, including under Section 382 of the Code as determined by the Company's tax advisers (and for the sake of clarity such income taxes shall be calculated without taking into account any net operating losses or other tax attributes generated by the Company or its Affiliates after the Closing Date);

(b) to the extent in excess, together with any Permitted Deductions pursuant to clause (c), in the aggregate, of the BD CVR Holdback, any out of pocket expenses incurred by the Company or any of its Affiliates in respect of its performance of this Agreement following the Closing Date (other than the fees of the Rights Agent hereunder and any out-of-pocket expenses incurred in the ordinary course in connection with SEC reporting and related financial reporting/accounting matters pertaining to this Agreement, which shall not be a Permitted Deduction) or in respect of its performance of any Contract in connection with any Potentially Transferable Asset, including any costs related to the prosecution, maintenance or enforcement by the Company or any of its Subsidiaries of intellectual property rights that are included in the Potentially Transferable Assets;

(c) to the extent in excess, together with any Permitted Deductions pursuant to clause (b), in the aggregate, of the BD CVR Holdback, any additional out of pocket expenses incurred or accrued by the Company or any of its Affiliates in connection with the negotiation, entry into and closing of any Disposition of any Potentially Transferable Asset, including any brokerage fee, finder's fee, opinion fee, success fee, transaction fee, service fee or other fee, commission or expense owed to any broker, finder, investment bank, auditor, accountant, counsel, advisor or other third party in relation thereto;

(d) any Losses incurred or reasonably expected to be incurred by the Company or any of its Affiliates arising out of any third-party claims, demands, actions, or other proceedings relating to or in connection with any Disposition, including indemnification obligations of the Company or any of its Affiliates set forth in any Disposition Agreement or this Agreement, provided that such actual or potential Losses shall no longer be a Permitted Deduction once the risk of Loss has lapsed (at which point the remaining balance shall be subject to distribution hereunder);

(e) any proceeds in consideration for a Disposition pursuant to a Disposition Agreement included in the final determination of Net Cash in accordance with the Merger Agreement;

(f) any Liabilities borne by the Company or any of its Affiliates pursuant to Contracts related to Potentially Transferable Assets, including costs arising from the termination thereof;

(g) any Liabilities that were ascertainable prior to or at the Closing and that would have been required to be included in the calculation of Parent Net Cash under clauses (iv) or (v) of such definition in the Merger Agreement, to the extent that deduction of such Liabilities would have resulted in a change in the Exchange Ratio under the Merger Agreement were such amounts properly deducted; provided that if the actual value of any Liabilities that were included in the calculation of Parent Net Cash are determined to be less than the accrued amount of such Liabilities that had been included in the calculation of Parent Net Cash, the amount of Permitted Deductions under this clause (g) shall be reduced by the amount of the difference between such actual value and such accrued amount; and

(h) any Liabilities (including professional fees and out-of-pocket expenses) incurred by the Company in pursuit of Tax refunds for the Company relating to Tax Returns filed by the Company prior to the Closing Date.

"**Permitted Transfer**" means a transfer of CVRs (a) upon death of a Holder by will or intestacy; (b) pursuant to a court order; (c) by operation of law (including by consolidation or merger) or without consideration in connection with the dissolution, liquidation or termination of any corporation, limited liability company, partnership or other entity; (d) in the case of CVRs held in book-entry or other similar nominee form, from a nominee to a beneficial owner and, if applicable, through an intermediary, to the extent allowable by DTC; or (e) as provided in Section 2.6.

"**Premises**" means the Premises (as defined, collectively, in the Lease Agreements).

"**Potentially Transferable Assets**" means any of the assets, technology and intellectual property of the Company related to the Parent Legacy Business.

"**Remaining Financial Obligations**" means the aggregate amount of the remaining financial obligations of the Company under the Lease Agreements as of a given date, including, without limitation, remaining rent payments (including Base Rent and Additional Rent, as defined in the Lease Agreements), Operating Expenses (as defined in the Lease Agreements) payable by the Company, parking charges, maintenance costs, utilities, and the estimated costs of decommissioning and returning the property to a condition required for surrender to the Lessor (including the remediation of any contamination caused by any Tenant HazMat Operations, as defined in the Lease Agreements).

"**Rights Agent**" means the Rights Agent named in the first paragraph of this Agreement, until a successor Rights Agent will have become the Rights Agent pursuant to the applicable provisions of this Agreement, and thereafter "Rights Agent" will mean such successor Rights Agent.

"**Sales and Use Tax Refund Amount**" means the aggregate amount of sales and use tax refunds from the State of Washington received by the Company for the 2019 – 2022 tax years.

ARTICLE 2
CONTINGENT VALUE RIGHTS

Section 2.1 Holders of CVRs; Appointment of Rights Agent.

(a) The CVRs represent the rights of Holders to receive CVR Cash Payments or CVR Stock Payments, as elected by the Company in its sole discretion, pursuant to this Agreement. The initial Holders will be the holders of Common Stock and holders of warrants to acquire shares of the Company as of immediately prior to the Effective Time. One CVR will be issued with respect to each share of Common Stock and each warrant to acquire shares of the Company, in each case that is outstanding as of immediately prior to the Effective Time (including, for the avoidance of doubt, those shares of Common Stock issued upon settlement of "Parent Restricted Stock Units" and "Parent Options" pursuant to Sections 6.7(a) and (b) of the Merger Agreement), *provided* that the Company shall issue additional CVRs to the holders of certain Parent Options from time to time to the extent such holders exercise such Parent Options pursuant to Section 2.6 of the Merger Agreement.

(b) The Company hereby appoints the Rights Agent to act as Rights Agent for the Company in accordance with the express terms and conditions set forth in this Agreement, and the Rights Agent hereby accepts such appointment.

Section 2.2 Non-transferable. The CVRs may not be sold, assigned, transferred, pledged, encumbered or in any other manner transferred or disposed of, in whole or in part, other than through a Permitted Transfer. The CVRs will not be listed on any quotation system or traded on any securities exchange.

Section 2.3 No Certificate; Registration; Registration of Transfer; Change of Address.

(a) The CVRs will be issued in book-entry form only and will not be evidenced by a certificate or other instrument.

(b) The Rights Agent shall create and maintain a register (the "**CVR Register**") for the purpose of registering CVRs and Permitted Transfers. The CVR Register will be created, and CVRs will be distributed, pursuant to written instructions to the Rights Agent from the Company. The CVR Register will initially show one position for Cede & Co. representing shares of Common Stock held by DTC on behalf of the street holders of the shares of Common Stock held by such holders as of immediately prior to the Effective

Time and warrants to acquire shares of the Company as of immediately prior to the Effective Time. In addition, the Rights Agent shall reflect in the CVR Register the additional CVRs issued to the holders of certain Parent Options who exercise such Parent Options pursuant to Section 2.6 of the Merger Agreement. The Rights Agent will have no responsibility whatsoever directly or indirectly to the street name holders with respect to transfers of CVRs. With respect to any payments or issuances to be made under Section 2.4 below, the Rights Agent will accomplish the payment to any former street name holders of shares Common Stock by sending one lump-sum payment or issuance to DTC. The Rights Agent will have no responsibilities whatsoever with regard to the distribution of payments or shares of Common Stock by DTC to such street name holders.

(c) Subject to the restrictions on transferability set forth in Section 2.2, every request made to transfer a CVR must be in writing and accompanied by a written instrument of transfer in form reasonably satisfactory to the Rights Agent pursuant to its guidelines or procedures, including a guaranty of signature by an "eligible guarantor institution" that is a member or participant in the Securities Transfer Agents Medallion Program, duly executed and properly completed by the Holder thereof, the Holder's attorney duly authorized in writing, the Holder's personal representative or the Holder's survivor, and setting forth in reasonable detail the circumstances relating to the transfer. Upon receipt of such written notice, the Rights Agent shall, subject to its reasonable determination that the transfer instrument is in proper form and the transfer otherwise complies with the other terms and conditions of this Agreement (including the provisions of Section 2.2), register the transfer of the CVRs in the CVR Register. The Company and Rights Agent may require evidence of payment of a sum sufficient to cover any stamp, documentary, registration, or other Tax or governmental charge that is imposed in connection with any such registration of transfer (or evidence that such Taxes and charges are not applicable). The Rights Agent shall have no duty or obligation to take any action under any section of this Agreement that requires the payment by a Holder of a CVR of applicable taxes or charges unless and until the Rights Agent is satisfied that all such taxes or charges have been paid. All duly transferred CVRs registered in the CVR Register will be the valid obligations of the Company and will entitle the transferee to the same benefits and rights under this Agreement as those held immediately prior to the transfer by the transferor. No transfer of a CVR will be valid until registered in the CVR Register.

(d) A Holder may make a written request to the Rights Agent to change such Holder's address of record in the CVR Register. The written request must be duly executed by the Holder. Upon receipt of such written notice, the Rights Agent shall, subject to its reasonable determination that the transfer instrument is in proper form, promptly record the change of address in the CVR Register. The Acting Holders may, without duplication, make a written request to the Rights Agent for a list containing the names, addresses and number of CVRs of the Holders that are registered in the CVR Register. Upon receipt of such written request from the Acting Holders, the Rights Agent shall promptly deliver a copy of such list to the Acting Holders.

(e) The Company will provide written instructions to the Rights Agent for the distribution of CVRs to holders of Common Stock as of immediately prior to the Effective Time (the "**Record Time**"). Subject to the terms and conditions of this Agreement and the Company's prompt confirmation of the Effective Time, the Rights Agent shall effect the distribution of the CVRs to each holder of Common Stock and each holder of warrants to acquire shares of the Company as of the Record Time, and to each holder of Parent Options exercising such Parent Options after the Record Time, in each case less any applicable tax withholding, by the mailing of a statement of holding reflecting such CVRs.

Section 2.4 Payment Procedures.

(a) For any payment or partial payment of a CVR Payment that the Company has elected, in its sole discretion, to settle via a CVR Stock Payment, the Company shall, no later than 45 days following the end of each CVR Payment Period during the CVR Term, commencing with the first CVR Payment Period in which the Company or its Affiliates receives Gross Proceeds or any Lease CVR Amounts arising in connection with a Lease Termination CVR or a Lease Sublease CVR, deliver to the Rights Agent a CVR

Payment Statement for such CVR Payment Period. Concurrent with the delivery of each CVR Payment Statement, on the terms and conditions of this Agreement, the Company will make appropriate arrangements with the Rights Agent for shares of Common Stock represented by book-entry shares to be issued as the CVR Stock Payment. Upon receipt of the book-entry shares referred to in the foregoing sentence, the Rights Agent shall promptly (and in any event, within 10 Business Days) distribute to each Holder by book-entry an amount of shares of Common Stock equal to such Holder's CVR Payment Amount; *provided* that, to the extent the foregoing would result in a Holder receiving a fractional share of Common Stock, such Holder shall forfeit such fractional share. The Rights Agent shall promptly, and in any event within 10 Business Days after receipt of a CVR Payment Statement under this Section 2.4(a), send each Holder at its registered address a copy of such statement. Without limiting any of the rights of the Rights Agent under the Agreement, for the avoidance of doubt, except as set forth in Section 4.5, the Company shall have no further liability in respect of the relevant CVR Stock Payment upon delivery instructions to the Rights Agents of such CVR Stock Payment in accordance with this Section 2.4(a) and the satisfaction of each of the Company obligations set forth in this Section 2.4(a).

(b) For any payment or partial payment of a CVR Payment that the Company has elected, in its sole discretion, to settle via a CVR Cash Payment, the Company shall, no later than 45 days following the end of each CVR Payment Period during the CVR Term, commencing with the first CVR Payment Period in which the Company or its Affiliates receives Gross Proceeds or any Lease CVR Amounts arising in connection with a Lease Termination CVR or a Lease Sublease CVR, the Company shall deliver to the Rights Agent a CVR Payment Statement for the such CVR Payment Period. Concurrent with the delivery of each CVR Payment Statement, on the terms and conditions of this Agreement, the Company shall pay the Rights Agent in U.S. dollars an amount equal to the CVR Payment for the applicable CVR Payment Period. Such amount of Net Proceeds will be transferred by wire transfer of immediately available funds to an account designated in writing by the Rights Agent not less than 20 Business Days prior to the date of the applicable payment. Upon receipt of the wire transfer referred to in the foregoing sentence, the Rights Agent shall promptly (and in any event, within 10 Business Days) pay, by check mailed, first-class postage prepaid, to the address each Holder set forth in the CVR Register at such time or by other method of deliver as specified by the applicable Holder in writing to the Rights Agent, an amount equal to such Holder's CVR Payment Amount. The Rights Agent shall as soon as practicable after receipt of a CVR Payment Statement under this Section 2.4(b), send each Holder at its registered address a copy of such statement. For the avoidance of doubt the Company shall have no further liability in respect of the relevant CVR Cash Payment upon delivery of such CVR Cash Payment in accordance with this Section 2.4(b) and the satisfaction of each of the Company's obligations set forth in this Section 2.4(b).

(c) The Rights Agent shall solicit from each Holder an IRS Form W-9 or applicable IRS Form W-8 at such time or times as is necessary to permit any payment under this Agreement to be made without U.S. federal backup withholding. That notwithstanding, the Company shall be entitled to deduct and withhold and hereby authorizes the Rights Agent to deduct and withhold, any tax or similar governmental charge or levy, that is required to be deducted or withheld under applicable law from any amounts payable pursuant to this Agreement ("**Withholding Taxes**"). To the extent the amounts are so withheld by the Company or the Rights Agent, as the case may be, and paid over to the appropriate Governmental Authority, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the person in respect of whom such deduction and withholding was made. In the event the Company becomes aware that a payment under this Agreement is subject to Withholding Taxes (other than U.S. federal backup withholding), the Company shall use commercially reasonable efforts to provide written notice to the Rights Agent and the Rights Agent shall use commercially reasonable efforts to provide written notice of such Withholding Taxes to the applicable Holders and the Company and the Holders shall use commercially reasonable efforts cooperate with one another to minimize taxes required by applicable law to be withheld or deducted from any payments made under this Agreement. For the avoidance of doubt, in the event that notice has been provided to an applicable Holder pursuant to this Section 2.4(c), no further notice shall be required to be given for any future payments of such Withholding Tax. The Company will use commercially reasonable efforts to provide withholding and reporting instructions in writing (email being sufficient) to the Rights

Agent from time to time as relevant, and upon reasonable request of the Rights Agent. The Rights Agent shall have no responsibilities with respect to tax withholding, reporting or payment except as set forth herein or as specifically instructed by the Company.

(d) The parties intend that each CVR Payment be treated as a distribution with respect to equity of the Company, and the parties shall file all Tax Returns in a manner consistent with such treatment unless otherwise required by a change in Law or the good-faith resolution of a controversy with a tax authority with respect thereto.

(e) Any portion of a CVR Payment that remains undistributed to the Holders six months after the applicable Calendar Quarter end (including by means of uncashed checks or invalid addresses on the CVR Register) will be delivered by the Rights Agent to the Company or a person nominated in writing by the Company (with written notice thereof from the Company to the Rights Agent), and any Holder will thereafter look only to the Company for payment of such CVR Payment (which shall be without interest).

(f) If any CVR Payment (or portion thereof) remains unclaimed by a Holder two years after the applicable Calendar Quarter end (or immediately prior to such earlier date on which such CVR Payment would otherwise escheat to or become the property of any Governmental Authority), such CVR Payment (or portion thereof) will, to the extent permitted by applicable Law, become the property of the Company and will be transferred to the Company or a person nominated in writing by the Company (with written notice thereof from the Company to the Rights Agent), free and clear of all claims or interest of any Person previously entitled thereto, and no consideration or compensation shall be payable therefor. Neither the Company nor the Rights Agent will be liable to any Person in respect of a CVR Payment delivered to a public official pursuant to any applicable abandoned property, escheat or similar legal requirement under applicable Law. In addition to and not in limitation of any other indemnity obligation herein, the Company agrees to indemnify and hold harmless the Rights Agent with respect to any liability, penalty, cost or expense the Rights Agent may incur or be subject to in connection with transferring such property to the Company, a public office or a person nominated in writing by the Company.

Section 2.5 No Voting, Dividends or Interest; No Equity or Ownership Interest.

(a) The CVRs will not have any voting or dividend rights, and interest will not accrue on any amounts payable in respect of CVRs to any Holder.

(b) The CVRs will not represent any equity or ownership interest in the Company or in any constituent company to the Merger. It is hereby acknowledged and agreed that a CVR shall not constitute a security of the Company.

(c) Nothing contained in this Agreement shall be construed as conferring upon any Holder, by virtue of the CVRs, any rights or obligations of any kind or nature whatsoever as a stockholder or member of the Company or any of its subsidiaries either at law or in equity. The rights of any Holder and the obligations of the Company and its Affiliates and their respective officers, directors and controlling Persons are contract rights limited to those expressly set forth in this Agreement.

(d) It is hereby acknowledged and agreed that the CVRs and the possibility of any payment hereunder with respect thereto are highly speculative and subject to numerous factors outside of the Company's control, and there is no assurance that Holders will receive any payments under this Agreement or in connection with the CVRs. Each Holder acknowledges that it is highly possible that no Disposition will occur prior to the expiration of the Disposition Period and that there will not be any Gross Proceeds that may be the subject of a CVR Payment Amount. It is further acknowledged and agreed that neither the Company nor its Affiliates owe, by virtue of their obligations under this Agreement, a fiduciary duty or any implied duties to the Holders and the Parties hereto intend solely the express provisions of this Agreement to govern their contractual relationship with respect to the CVRs. It is acknowledged and agreed that this Section 2.5(d) is an essential and material term of this Agreement.

Section 2.6 Ability to Abandon CVR. A Holder may at any time, at such Holder's option, abandon all of such Holder's remaining rights represented by CVRs by transferring such CVR to the Company or a Person nominated in writing by the Company (with written notice thereof from the Company to the Rights Agent) without consideration in compensation therefor, and such rights will be cancelled, with the Rights Agent being promptly notified in writing by the Company of such transfer and cancellation. Nothing in this Agreement is intended to prohibit the Company or its Affiliates from offering to acquire or acquiring CVRs, in private transactions or otherwise, for consideration in its sole discretion.

ARTICLE 3
THE RIGHTS AGENT

Section 3.1 Certain Duties and Responsibilities.

(a) The Rights Agent will not have any liability for any actions taken or not taken in connection with this Agreement, except to the extent such liability arises as a result of the willful misconduct, bad faith or gross negligence of the Rights Agent (in each case as determined by a final non-appealable judgment of court of competent jurisdiction). Notwithstanding anything in this Agreement to the contrary, any liability of the Rights Agent under this Agreement will be limited to the amount of annual fees paid by the Company to the Rights Agent in connection with this Agreement (but not including reimbursable expenses and other charges) during the 18 months immediately preceding the event for which recovery from the Rights Agent is being sought. Anything to the contrary notwithstanding, in no event will the Rights Agent be liable for special, punitive, indirect, incidental or consequential loss or damages of any kind whatsoever (including, without limitation, lost profits), even if the Rights Agent has been advised of the likelihood of such loss or damages, and regardless of the form of action.

(b) The Rights Agent shall not have any duty or responsibility in the case of the receipt of any written demand from any Holder with respect to any action or default by any person or entity, including, without limiting the generality of the foregoing, any duty or responsibility to initiate or attempt to initiate any proceedings at law or otherwise or to make any demand upon the Company or Neurogene. The Rights Agent may (but shall not be required to) enforce all rights of action under this Agreement and any related claim, action, suit, audit, investigation or proceeding instituted by the Rights Agent may be brought in its name as the Rights Agent and any recovery in connection therewith will be for the proportionate benefit of all the Holders, as their respective rights or interests may appear on the CVR Register.

Section 3.2 Certain Rights of Rights Agent.

(a) The Rights Agent undertakes to perform such duties and only such duties as are specifically set forth in this Agreement, and no implied covenants or obligations will be read into this Agreement against the Rights Agent.

(b) The Rights Agent may rely and will be protected by the Company in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order or other paper or document reasonably believed by it to be genuine and to have been signed or presented by or on behalf of the Company or, with respect to Section 2.3(d), the Acting Holders.

(c) Whenever the Rights Agent deems it desirable that a matter be proved or established prior to taking or omitting any action hereunder, the Rights Agent may rely upon an Officer's Certificate, which certificate shall be full authorization and protection to the Rights Agent, and the Rights Agent shall, in the absence of bad faith, gross negligence or willful misconduct (each as determined by a final non-appealable judgment of a court of competent jurisdiction) on its part, not incur any liability and shall be held harmless by the Company for or in respect of any action taken or omitted to be taken by it under the provisions of this Agreement in reliance upon such Officer's Certificate.

(d) The Rights Agent may engage and consult with counsel of its selection, and the advice or opinion of such counsel will, in the absence of bad faith, gross negligence or willful misconduct (in each case, as determined by a final, non-appealable judgment of a court of competent jurisdiction) on the part of the Rights Agent, be full and complete authorization and protection in respect of any action taken or not taken by the Rights Agent in reliance thereon.

(e) Any permissive rights of the Rights Agent hereunder will not be construed as a duty.

(f) The Rights Agent will not be required to give any note or surety in respect of the execution of its powers or otherwise under this Agreement.

(g) The Company agrees to indemnify the Rights Agent for, and to hold the Rights Agent harmless from and against, any loss, liability, damage, judgment, fine, penalty, cost or expense (each, a "**Loss**") suffered or incurred by the Rights Agent and arising out of or in connection with the Rights Agent's performance of its obligations under this Agreement, including the reasonable and documented costs and expenses of defending the Rights Agent against any claims, charges, demands, actions or suits arising out of or in connection with the execution, acceptance, administration, exercise and performance of its duties under this Agreement, including the costs and expenses of defending against any claim of liability arising therefrom, directly or indirectly, or enforcing its rights hereunder, except to the extent such Loss has been determined by a final non-appealable decision of a court of competent jurisdiction to have resulted from the Rights Agent's gross negligence, bad faith or willful misconduct; *provided* that this Section 3.2(g) shall not apply with respect to income, receipt, franchise or similar Taxes levied against the Rights Agent by a Governmental Authority.

(h) The Company agrees (i) to pay the fees of the Rights Agent in connection with the Rights Agent's performance of its obligations hereunder as set forth in Exhibit A and agreed upon in writing by the Rights Agent and the Company on or prior to the date of this Agreement, and (ii) to reimburse the Rights Agent for all reasonable and documented out-of-pocket expenses and other disbursements incurred in the preparation, delivery, negotiation, amendment, administration and execution of this Agreement and the exercise and performance of its duties hereunder, including all stamp and transfer Taxes (and excluding for the avoidance of doubt, any income, receipt, franchise or similar Taxes levied against the Rights Agent by a Governmental Authority) and governmental charges, incurred by the Rights Agent in the performance of its obligations under this Agreement, except that the Company will have no obligation to pay the fees of the Rights Agent or reimburse the Rights Agent for the fees of counsel in connection with any lawsuit initiated by the Rights Agent on behalf of itself or the Holders, except in the case of any suit enforcing the provisions of Section 2.4(a), Section 2.4(b) or Section 3.2(g), if the Company is found by a court of competent jurisdiction to be liable to the Rights Agent or the Holders, as applicable in such suit.

(i) No provision of this Agreement shall require the Rights Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers if it believes that repayment of such funds or adequate indemnification against such risk or liability is not reasonably assured to it.

(j) The Rights Agent shall have no responsibility to the Company, any holders of CVRs, any holders of shares of Common Stock or any other Person for interest or earnings on any moneys held by the Rights Agent pursuant to this Agreement.

(k) The Rights Agent shall not be subject to, nor be required to comply with, or determine if any Person has complied with, the Merger Agreement or any other agreement between or among any the Company, Neurogene or Holders, even though reference thereto may be made in this Agreement, or to comply with any notice, instruction, direction, request or other communication, paper or document other than as expressly set forth in this Agreement.

(l) Subject to applicable Law, (i) the Rights Agent and any shareholder, affiliate, director, officer or employee of the Rights Agent may buy, sell or deal in any securities of the Company or Neurogene or become peculiarly interested in any transaction in which such parties may be interested, or contract with or

lend money to such parties or otherwise act as fully and freely as though it were not the Rights Agent under this Agreement, and (ii) nothing herein will preclude the Rights Agent from acting in any other capacity for the Company or for any other Person.

(m) In the event the Rights Agent reasonably believes any ambiguity or uncertainty exists hereunder or in any notice, instruction, direction, request or other communication, paper or document received by the Rights Agent hereunder, the Rights Agent shall, as soon as practicable, provide notice to the Company, and the Rights Agent, may, in its sole discretion, refrain from taking any action, and shall be fully protected and shall not be liable in any way to the Company or any Holder or any other Person for refraining from taking such action, unless the Rights Agent receives written instructions from the Company or such Holder or other Person which eliminate such ambiguity or uncertainty to the reasonable satisfaction of the Rights Agent.

(n) The Rights Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself or by or through its attorney or agents and the Rights Agent shall not be answerable or accountable for any act, default, neglect or misconduct of any such attorney or agents or for any loss to the Company or Neurogene resulting from any such act, default, neglect or misconduct, absent gross negligence, bad faith or willful misconduct (each as determined by a final non-appealable judgment of a court of competent jurisdiction) in the selection and continued employment thereof.

(o) The Rights Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement (except its countersignature thereof) or be required to verify the same, and all such statements and recitals are and shall be deemed to have been made by the Company only.

(p) The Rights Agent shall act hereunder solely as agent for the Company and shall not assume any obligations or relationship of agency or trust with any of the owners or holders of the CVRs. The Rights Agent shall not have any duty or responsibility in the case of the receipt of any written demand from any Holders with respect to any action or default by the Company, including, without limiting the generality of the foregoing, any duty or responsibility to initiate or attempt to initiate any proceedings at law or otherwise or to make any demand upon the Company.

(q) The Rights Agent may rely on and be fully authorized and protected in acting or failing to act upon (a) any guaranty of signature by an "eligible guarantor institution" that is a member or participant in the Securities Transfer Agents Medallion Program or other comparable "signature guarantee program" or insurance program in addition to, or in substitution for, the foregoing; or (b) any law, act, regulation or any interpretation of the same even though such law, act, or regulation may thereafter have been altered, changed, amended or repealed.

(r) The Rights Agent shall not be liable or responsible for any failure of the Company to comply with any of its obligations relating to any registration statement filed with the Securities and Exchange Commission or this Agreement, including without limitation obligations under applicable regulation or law.

(s) The obligations of the Company and the rights of the Rights Agent under Section 2.4, Section 3.1 and this Section 3.2 and shall survive the expiration of the CVRs and the termination of this Agreement and the resignation, replacement or removal of the Rights Agent.

Section 3.3 Resignation and Removal; Appointment of Successor.

(a) The Rights Agent may resign at any time by written notice to the Company. Any such resignation notice shall specify the date on which such resignation will take effect (which shall be at least 30 days following the date that such resignation notice is delivered), and such resignation will be effective on the earlier of (x) the date so specified and (y) the appointment of a successor Rights Agent.

(b) The Company will have the right to remove the Rights Agent at any time by written notice to the Rights Agent, specifying the date on which such removal will take effect. Such notice will be given at least 30 days prior to the date so specified (or, if earlier, the appointment of the successor Rights Agent).

(c) If the Rights Agent resigns, is removed or becomes incapable of acting, the Company will promptly appoint a qualified successor Rights Agent. Notwithstanding the foregoing, if the Company fails to make such appointment within a period of 30 days after giving notice of such removal or after it has been notified in writing of such resignation or incapacity by the resigning or incapacitated Rights Agent, then the incumbent Rights Agent may apply to any court of competent jurisdiction for the appointment of a new Rights Agent. The successor Rights Agent so appointed will, upon its acceptance of such appointment in accordance with this Section 3.3(c) and Section 3.4, become the Rights Agent for all purposes hereunder.

(d) The Company will give notice to the Holders of each resignation or removal of the Rights Agent and each appointment of a successor Rights Agent in accordance with Section 7.2. Each notice will include the name and address of the successor Rights Agent. If the Company fails to send such notice within 10 Business Days after acceptance of appointment by a successor Rights Agent, the successor Rights Agent will cause the notice to be mailed at the expense of the Company.

(e) Notwithstanding anything to the contrary in this Section 3.3, unless consented to in writing by the Acting Holders, the Company will not appoint as a successor Rights Agent any Person that is not a stock transfer agent of national reputation or the corporate trust department of a commercial bank.

(f) The Rights Agent will reasonably cooperate with the Company and any successor Rights Agent in connection with the transition of the duties and responsibilities of the Rights Agent to the successor Rights Agent, including the transfer of all relevant data, including the CVR Register, to the successor Rights Agent, but such predecessor Rights Agent shall not be required to make any additional expenditure or assume any additional liability in connection with the foregoing.

Section 3.4 Acceptance of Appointment by Successor. Every successor Rights Agent appointed hereunder will, at or prior to such appointment, execute, acknowledge and deliver to the Company and to the resigning or removed Rights Agent an instrument accepting such appointment and a counterpart of this Agreement, and such successor Rights Agent, without any further act, deed or conveyance, will become vested with all the rights, powers, trusts and duties of the Rights Agent; *provided* that upon the request of the Company or the successor Rights Agent, such resigning or removed Rights Agent will execute and deliver an instrument transferring to such successor Rights Agent all the rights, powers and trusts of such resigning or removed Rights Agent.

ARTICLE 4
COVENANTS

Section 4.1 List of Holders. The Company will furnish or cause to be furnished to the Rights Agent, in such form as the Company receives from the Company's transfer agent (or other agent performing similar services for the Company), the names and addresses of the Holders within 15 Business Days following the Closing Date.

Section 4.2 No Obligations of Public Company. For the avoidance of doubt: (a) except as otherwise expressly provided in this Article 4, the Company and its Affiliates shall have the power and right to control all aspects of their businesses and operations (and all of their assets and products), and subject to its compliance with the terms of this Agreement, the Company and its Affiliates may exercise or refrain from exercising such power and right as it may deem appropriate and in the best overall interests of the Company and its Affiliates and its and their stockholders, rather than the interest of the Holders, (b) none of the Company or any of its Affiliates (or any directors, officer, employee, or other representative of the foregoing) owes any fiduciary duty or similar duty to any Holder in respect of the Potentially Transferable Assets, and (c) following the Disposition Period, the Company shall be permitted to take any action in respect of the Potentially Transferable Assets in order to satisfy any wind-down and termination Liabilities of the Potentially Transferable Assets.

Section 4.3 Prohibited Actions. Unless approved by the Acting Holders, prior to the end of the Disposition Period, the Company shall not grant any lien, security interest, pledge or similar interest in any Potentially Transferable Assets or any Net Proceeds. Unless approved by the Acting Holders, prior to end of the Disposition

Period, the Company shall not, and shall not permit its Affiliates to, grant, assign, transfer or otherwise convey any Potentially Transferable Assets (including any option to obtain rights) to any third party other than pursuant to a Disposition Agreement.

Section 4.4 Books and Records. Until the end of the CVR Term, the Company shall, and shall cause its Affiliates to, keep true, complete and accurate records in sufficient detail to enable the Rights Agent to confirm the applicable CVR Payment Amount payable hereunder in accordance with the terms specified in this Agreement.

Section 4.5 Audits. Until the expiration of this Agreement and for a period of one year thereafter, the Company shall keep complete and accurate records in sufficient detail to support the accuracy of the payments due hereunder. The Acting Holders shall have the right to cause an independent accounting firm reasonably acceptable to the Company to audit such records for the sole purpose of confirming payments for a period covering not more than the date commencing with the first CVR Payment Period in which the Company or its Affiliates receives Gross Proceeds and ending on the last day of the CVR Term. The Company may require such accounting firm to execute a reasonable confidentiality agreement with the Company prior to commencing the audit. The accounting firm shall disclose to Rights Agent or the Acting Holders, as applicable, only whether the reports are correct or not and the specific details concerning any discrepancies. No other information shall be shared. Such audits may be conducted during normal business hours upon reasonable prior written notice to the Company, but no more than frequently than once per year. No accounting period of the Company shall be subject to audit more than one time by the Acting Holders, as applicable, unless after an accounting period has been audited by the Acting Holders, as applicable, the Company restates its financial results for such accounting period, in which event the Acting Holders, as applicable, may conduct a second audit of such accounting period in accordance with this Section 4.5. Adjustments (including remittances of underpayments or overpayments disclosed by such audit) shall be made by the Company to reflect the results of such audit, which adjustments shall be paid promptly following receipt of an invoice therefor. Whenever such an adjustment is made, the Company shall promptly prepare a certificate setting forth such adjustment, and a brief, reasonably detailed statement of the facts, computation and methodology accounting for such adjustment to the extent not already reflected in the audit report and promptly file with the Rights Agent a copy of such report and promptly deliver to the Rights Agent a revised CVR Payment Statement for the relevant CVR Payment Period. The Rights Agent shall be fully protected in relying on any such report and on any adjustment or statement therein contained and shall have no duty or liability with respect to, and shall not be deemed to have knowledge of any such adjustment or any such event unless and until it shall have received such report. The Acting Holders, as applicable, shall bear the full cost and expense of such audit unless such audit discloses an underpayment by the Company of 10% or more of the CVR Payment Amount due under this Agreement, in which case the Company shall bear the full cost and expense of such audit. The Rights Agent shall be entitled to rely on any audit report delivered by the independent accounting firm pursuant to this Section 4.5.

Section 4.6 Lease Representative.

(a) The Lease Representative shall use commercially reasonable efforts to negotiate a Lease Termination or Sublease/Partial Assignment as soon as practicable after the Closing taking into consideration market conditions for facilities comparable to the Premises. The Lease Representative and any brokers or other agents engaged by the Company shall be promptly reimbursed by the Company for any out-of-pocket expenses, as well as reasonable compensation for the Lease Representative's services at a rate of $[•][1] per hour (such aggregate expenses and compensation not to exceed the amount of the Lease Negotiation Holdback). The Lease Representative and the real estate broker shall provide periodic updates (no less than once per month) in the form of a written report (unless otherwise agreed) to the Company's Chief Financial Officer regarding material developments relating to activities in support of a Lease Termination or Sublease/Partial Assignment. Lease Representative and real estate broker shall not engage in any lease negotiations without engaging with the Company's Chief Financial Officer in any such negotiations regarding a potential Lease Termination or Sublease/Partial Assignment. The Lease

[1] Note to Draft: to be determined by the Company as a reasonable rate for such role

Representative shall have no authority to bind the Company or act as an officer, employee or agent of the Company. Upon the Company's entry into a Lease Termination or Sublease/Partial Assignment, the Lease Representative's role shall terminate. The Lease Representative may resign at any time by written notice to the Company and any such resignation notice shall specify the date on which such resignation will take effect (which shall be at least 60 days following the date that such resignation notice is delivered), and such resignation will be effective on the earlier of (x) the date so specified and (y) the appointment of a successor Lease Representative. If the Lease Representative shall be unable to serve in such capacity for a period of 60 consecutive days for any reason prior to the termination of the role or if the Lease Representative resigns pursuant to the immediately preceding sentence, a successor Lease Representative shall be promptly appointed by the Company (which person shall, if an alternate Lease Representative shall have previously been designated by the prior Lease Representative, be the person so designated).

(b) The Company agrees to indemnify the Lease Representative for, and to hold the Lease Representative harmless from and against, any Loss suffered or incurred by the Lease Representative and arising out of or in connection with the Lease Representative's performance of its obligations under this Agreement, including the reasonable and documented costs and expenses of defending any claims, charges, demands, actions or suits arising out of or in connection with the execution, acceptance, administration, exercise and performance of its duties under this Agreement, including the costs and expenses of defending against any claim of liability arising therefrom, directly or indirectly, or enforcing its rights hereunder, except to the extent such Loss has been determined by a final non-appealable decision of a court of competent jurisdiction to have resulted from the Lease Representative's gross negligence, bad faith or willful misconduct; *provided* that this Section 4.6(b) shall not apply with respect to income, receipt, franchise or similar Taxes levied against the Lease Representative by a Governmental Authority. For the avoidance of doubt, the aggregate cost of the Company's indemnification obligations under this Section 4.6(b) shall constitute a Permitted Deduction.

Section 4.7 Engagement of Advisors. During the Disposition Period, the Company may engage one or more consultants, investment banks and other advisors to assist with the marketing and sale of the Potentially Transferrable Assets and shall fund such expenses up to the amount of the BD CVR Holdback. During the Disposition Period, the Company will use reasonable efforts to maintain the assets included in the Potentially Transferable Assets, including maintaining the registration of the registered intellectual property rights set forth on Schedule 4.7, but only to the extent that the out-of-pocket costs thereof, in the aggregate, together with any Permitted Deductions pursuant to clauses (b) and (c) of the definition of Permitted Deductions, do not exceed the BD CVR Holdback. The Company will use commercially reasonable efforts to negotiate in good faith with prospective counterparties who make bona fide offers with respect to the Potentially Transferrable Assets during the Disposition Period, consummate any Dispositions of the Potentially Transferrable Assets that are successfully negotiated during the Disposition Period and act in good faith with respect to any potential Disposition. For the avoidance of doubt, the Company shall have no obligation to undertake any marketing efforts with respect to the Potentially Transferrable Assets during the Disposition Period, nor shall the Company have any obligation to solicit competing bids or otherwise maximize the value of any Disposition.

Section 4.8 Additional Covenants. The Company shall use commercially reasonable efforts to pursue the Sales and Use Tax Refund Amount to the extent consistent with applicable Tax Law. The Company shall work with the Lease Representative and shall use commercially reasonable efforts to effectuate a Lease Termination or Sublease/Partial Assignment as soon as practicable after the Closing taking into consideration market conditions for facilities comparable to the Premises, including by (a) continuing to engage a real estate broker with relevant experience and directing that the Premises be listed at market rental rates, (b) maintaining the Premises in appropriate operating condition, (c) allowing potential assignees or lessees to visit and inspect the Premises during normal business hours upon reasonable prior notice, (d) taking actions customary of a tenant seeking to sublease or assign facilities comparable to the Premises in a reasonably expeditious manner and (e) otherwise cooperating with the Lease Representative and acting in good faith with respect to obtaining, negotiating and effectuating a Lease Termination or Sublease/Partial Assignment. The Company and the Lease Representative

will meet periodically (at least quarterly) to discuss the status of the efforts of the Company and the Lease Representative to effectuate and negotiate a Lease Termination or Sublease/Partial Assignment. The Company shall not terminate, assign, sublease or materially modify or amend any Lease Agreement without the prior written consent of the Lease Representative (such consent not to be unreasonably withheld, conditioned or delayed).

ARTICLE 5
AMENDMENTS

Section 5.1 Amendments Without Consent of Holders or Rights Agent.

(a) The Company, at any time and from time to time, may (without the consent of any Person, other than the Rights Agent, with such consent not to be unreasonably withheld, conditioned or delayed) enter into one or more amendments to this Agreement for any of the following purposes:

(i) to evidence the appointment of another Person as a successor Rights Agent and the assumption by any successor Rights Agent of the covenants and obligations of the Rights Agent herein in accordance with the provisions hereof;

(ii) with the consent of the person serving as Lease Representative prior to such amendment (other than in the case of a replacement pursuant to the last sentence of Section 4.6(a)), to evidence the appointment of another Person as a successor Rights Agent and the assumption by any successor Rights Agent of the covenants and obligations of the Rights Agent herein in accordance with the provisions hereof;

(iii) subject to Section 6.1, to evidence the succession of another person to the Company and the assumption of any such successor of the covenants of the Company outlined herein in a transaction contemplated by Section 6.1;

(iv) to add to the covenants of the Company such further covenants, restrictions, conditions or provisions as the Company and the Rights Agent will consider to be for the protection and benefit of the Holders; *provided* that in each case, such provisions do not adversely affect the interests of the Holders;

(v) to cure any ambiguity, to correct or supplement any provision in this Agreement that may be defective or inconsistent with any other provision in this Agreement, or to make any other provisions with respect to matters or questions arising under this Agreement; *provided* that, in each case, such provisions do not adversely affect the interests of the Holders;

(vi) as may be necessary or appropriate to ensure that the CVRs are not subject to registration under the Securities Act or the Exchange Act and the rules and regulations promulgated thereunder, or any applicable state securities or “blue sky” laws;

(vii) as may be necessary or appropriate to ensure that the Company is not required to produce a prospectus or an admission document in order to comply with applicable Law;

(viii) to cancel the CVRs (i) in the event that any Holder has abandoned its rights in accordance with Section 2.6 or (ii) following a transfer of such CVRs to the Company or its Affiliates in accordance with Section 2.2 or Section 2.3;

(ix) as may be necessary or appropriate to ensure that the Company complies with applicable Law; or

(x) to effect any other amendment to this Agreement for the purpose of adding, eliminating or changing any provisions of this Agreements, *provided* that, in each case, such additions, eliminations or changes do not adversely affect the interests of the Holders.

(b) Promptly after the execution by the Company of any amendment pursuant to this Section 5.1, the Company will (or will cause the Rights Agent to) notify the Holders in general terms of the substance of such amendment in accordance with Section 7.2.

Section 5.2 Amendments with Consent of Holders.

(a) In addition to any amendments to this Agreement that may be made by the Company without the consent of any Holder pursuant to Section 5.1, with the consent of the Acting Holders (whether evidenced in a writing or taken at a meeting of the Holders), the Company and the Rights Agent may enter into one or more amendments to this Agreement for the purpose of adding, eliminating or amending any provisions of this Agreement, even if such addition, elimination or amendment is adverse to the interests of the Holders.

(b) Promptly after the execution by the Company and the Rights Agent of any amendment pursuant to the provisions of this Section 5.2, the Company will (or will cause the Rights Agent to) notify the Holders in general terms of the substance of such amendment in accordance with Section 7.2.

Section 5.3 Effect of Amendments. Upon the execution of any amendment under this Article 5, this Agreement will be modified in accordance therewith, such amendment will form a part of this Agreement for all purposes and every Holder will be bound thereby. Upon the delivery of a certificate from an appropriate officer of the Company which states that the proposed supplement or amendment is in compliance with the terms of this Article 5, the Rights Agent shall execute such supplement or amendment. Notwithstanding anything in this Agreement to the contrary, the Rights Agent shall not be required to execute any supplement or amendment to this Agreement that it has determined would adversely affect its own rights, duties, obligations or immunities under this Agreement. No supplement or amendment to this Agreement shall be effective unless duly executed by the Rights Agent. In addition, no supplement or amendment to this Agreement that affects the rights or obligations of the Lease Representative shall be effective unless duly executed by the Lease Representative.

ARTICLE 6
CONSOLIDATION, MERGER, SALE OR CONVEYANCE

Section 6.1 The Company May Not Consolidate, Etc. During the CVR Term, the Company shall not consolidate with or merge into any other Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, unless:

(a) the Person formed by such consolidation or into which the Company is merged or the Person that acquires by conveyance or transfer, or that leases, the properties and assets of the Company substantially as an entirety (the "**Surviving Person**") shall expressly assume payment of amounts on all CVRs (when and as due hereunder) and the performance of every duty and covenant of this Agreement on the part of the Company to be performed or observed; and

(b) the Company has delivered to the Rights Agent an Officer's Certificate, stating that such consolidation, merger, conveyance, transfer or lease complies with this Article 6 and that all conditions precedent herein provided for relating to such transaction have been complied with.

Section 6.2 Successor Substituted. Upon any consolidation of or merger by the Company with or into any other Person, or any conveyance, transfer or lease of the properties and assets substantially as an entirety to any Person in accordance with Section 6.1, the Surviving Person shall succeed to, and be substituted for, and may exercise every right and power of, and shall assume all of the obligations of the Company under this Agreement with the same effect as if the Surviving Person had been named as the Company herein.

ARTICLE 7
MISCELLANEOUS

Section 7.1 Notices to Rights Agent and to the Company. All notices, requests and other communications (each, a "**Notice**") to any Party hereunder shall be in writing and shall be deemed to have been duly delivered and received hereunder (a) one Business Day after being sent for next Business Day delivery, fees prepaid, via a reputable international overnight courier service, (b) upon delivery in the case of delivery in person, by FedEx or other internationally recognized overnight courier service or (c) on the date delivered in the place of delivery if sent by email (with a written or electronic confirmation of delivery) prior to 6:00 p.m. (New York City time), otherwise on the next succeeding Business Day, in each case to the intended recipient as set forth below:

if to the Rights Agent, to:

[Rights Agent]
[_____]
Attention: [_____]
Email: [_____]

if to the Company, to:

Neurogene Inc.
535 W 24th Street, 5th Floor
New York, NY 10011
Attention: Christine Mikail, J.D.
Email: [*]

with a copy, which shall not constitute notice, to:

Gibson, Dunn & Crutcher LLP
555 Mission Street, Suite 3000
San Francisco, CA 94105
Attention: Ryan Murr, Branden Berns
Email: rmurr@gibsondunn.com, bberns@gibsondunn.com

or to such other address as such Party may hereafter specify for the purpose by notice to the other Parties hereto.

Section 7.2 Notice to Holders. All Notices required to be given to the Holders will be given (unless otherwise herein expressly provided) in writing and mailed, first-class postage prepaid, to each Holder at such Holder's address as set forth in the CVR Register, not later than the latest date, and not earlier than the earliest date, prescribed for the sending of such Notice, if any, and will be deemed given on the date of mailing. In any case where notice to the Holders is given by mail, neither the failure to mail such Notice, nor any defect in any Notice so mailed, to any particular Holder will affect the sufficiency of such Notice with respect to other Holders.

Section 7.3 Entire Agreement. As between the Company and the Rights Agent, this Agreement constitutes the entire agreement between the Parties with respect to the subject matter of this Agreement, notwithstanding the reference to any other agreement herein, and supersedes all prior agreements and understandings, both written and oral, among or between any of the Parties with respect to the subject matter of this Agreement.

Section 7.4 Merger or Consolidation or Change of Name of Rights Agent. Any Person into which the Rights Agent or any successor Rights Agent may be merged or with which it may be consolidated, or Person resulting from any merger or consolidation to which the Rights Agent or any successor Rights Agent shall be a Party, or any Person succeeding to the stock transfer or other shareholder services business of the Rights Agent or any successor Rights Agent, shall be the successor to the Rights Agent under this Agreement without the

execution or filing of any paper or any further act on the part of any of the Parties hereto; *provided* that such Person would be eligible for appointment as a successor Rights Agent under the provisions of Section 3.3. The purchase of all or substantially all of the Rights Agent's assets employed in the performance of transfer agent activities shall be deemed a merger or consolidation for purposes of this Section 7.4.

Section 7.5 Successors and Assigns. This Agreement will be binding upon, and will be enforceable by and inure solely to the benefit of, the Holders, the Company and the Rights Agent and their respective successors and assigns. Except for assignments pursuant to Section 7.4, the Rights Agent may not assign this Agreement without the Company's prior written consent. Subject to Section 5.1(a)(ii) and Article 6 hereof, the Company may assign, in its sole discretion and without the consent of any other Party, any or all of its rights, interests and obligations hereunder to one or more of its Affiliates or to any Person with whom the Company is merged or consolidated, or any entity resulting from any merger or consolidation to which the Company shall be a Party (each, an "**Assignee**"); *provided* that in connection with any assignment to an Assignee, the Company shall agree to remain liable for the performance by the Company of its obligations hereunder (to the extent the Company exists following such assignment). The Company or an Assignee may not otherwise assign this Agreement without the prior consent of the Acting Holders (such consent not to be unreasonably withheld, conditioned or delayed). Any attempted assignment of this Agreement in violation of this Section 7.5 will be void *ab initio* and of no effect.

Section 7.6 Benefits of Agreement; Action by Acting Holders. Nothing in this Agreement, express or implied, will give to any Person (other than the Company, the Rights Agent, the Holders and their respective permitted successors and assigns hereunder) any benefit or any legal or equitable right, remedy or claim under this Agreement or under any covenant or provision herein contained, all such covenants and provisions being for the sole benefit of the Company, the Rights Agent, the Holders and their permitted successors and assigns. The Holders will have no rights hereunder except as are expressly set forth herein. Except for the rights of the Rights Agent set forth herein, the Acting Holders will have the sole right, on behalf of all Holders, by virtue of or under any provision of this Agreement, to institute any action or proceeding at law or in equity with respect to this Agreement, and no individual Holder or other group of Holders will be entitled to exercise such rights.

Section 7.7 Governing Law. This Agreement and the CVRs will be governed by, and construed in accordance with, the laws of the State of Delaware without regard to the conflicts of law rules of such state.

Section 7.8 Jurisdiction. In any action or proceeding between any of the Parties hereto arising out of or relating to this Agreement or any of the transactions contemplated hereby, each of the Parties hereto: (a) irrevocably and unconditionally consents and submits to the exclusive jurisdiction and venue of the Court of Chancery of the State of Delaware or, to the extent such court does not have subject matter jurisdiction, the Superior Court of the State of Delaware or the United States District Court for the District of Delaware; (b) agrees that all claims in respect of such action or proceeding shall be heard and determined exclusively in accordance with clause (a) of this Section 7.8; (c) waives any objection to laying venue in any such action or proceeding in such courts; (d) waives any objection that such courts are an inconvenient forum or do not have jurisdiction over any Party; and (e) agrees that service of process upon such Party in any such action or proceeding shall be effective if notice is given in accordance with Section 7.1 or Section 7.2 of this Agreement.

Section 7.9 WAIVER OF JURY TRIAL. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATED TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY. EACH PARTY CERTIFIES AND ACKNOWLEDGES THAT (I) NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER, (II) EACH PARTY UNDERSTANDS AND HAS CONSIDERED THE IMPLICATION OF THIS WAIVER, (III) EACH PARTY MAKES THIS WAIVER VOLUNTARILY, AND (IV) EACH PARTY HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 7.9.

Section 7.10 Severability Clause. In the event that any provision of this Agreement, or the application of any such provision to any Person or set of circumstances, is for any reason determined to be invalid, unlawful, void or unenforceable to any extent, the remainder of this Agreement, and the application of such provision to Persons or circumstances other than those as to which it is determined to be invalid, unlawful, void or unenforceable, will not be impaired or otherwise affected and will continue to be valid and enforceable to the fullest extent permitted by applicable Law. Upon such a determination, the Parties hereto will negotiate in good faith to modify this Agreement so as to effect the original intent of the Parties as closely as possible in a mutually acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the fullest extent possible; *provided*, *however*, that if an excluded provision shall affect the rights, immunities, liabilities, duties or obligations of the Rights Agent, the Rights Agent shall be entitled to resign immediately upon written Notice to the Company.

Section 7.11 Counterparts; Effectiveness. This Agreement may be signed in any number of counterparts, each of which will be deemed an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement or any counterpart may be executed and delivered by electronic communications by portable document format (.pdf), which shall be deemed an original. This Agreement will become effective when each Party hereto will have received a counterpart hereof signed by the other Party hereto. Until and unless each Party has received a counterpart hereof signed by the other Party hereto, this Agreement will have no effect and no Party will have any right or obligation hereunder (whether by virtue of any oral or written agreement or any other communication).

Section 7.12 Termination. This Agreement will automatically terminate and be of no further force or effect and, except as provided in Section 3.2, the Parties hereto will have no further liability hereunder, and the CVRs will expire without any consideration or compensation therefor, upon the expiration of the CVR Term. The termination of this Agreement will not affect or limit the right of Holders to receive the CVR Payments under Section 2.4 to the extent earned prior to the termination of this Agreement, and the provisions applicable thereto will survive the expiration or termination of this Agreement until such CVR Payments have been made, if applicable.

Section 7.13 Funds. All funds received by Rights Agent under this Agreement that are to be distributed or applied by Rights Agent in the performance of services hereunder (the "**Funds**") shall be deposited in one or more bank accounts to be maintained by Rights Agent in its name as agent for the Company. Until paid pursuant to the terms of this Agreement, the Rights Agent shall hold the Funds through such accounts in: deposit accounts of commercial banks with Tier 1 capital exceeding $1 billion or with an average rating above investment grade by S&P (LT Local Issuer Credit Rating), Moody's (Long Term Rating) and Fitch Ratings, Inc. (LT Issuer Default Rating) (each as reported by Bloomberg Finance L.P.). The Rights Agent shall, in the absence of bad faith, gross negligence or willful misconduct (each as determined by a final non-appealable judgment of a court of competent jurisdiction) on its part, have no responsibility or liability for any diminution of the Funds that may result from any deposit in accordance with this paragraph, including any losses resulting from a default by any bank, financial institution or other third party.

Section 7.14 Further Assurance by Company. The Company agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required or requested by the Rights Agent for the carrying out or performing by the Rights Agent of the provisions of this Agreement.

Section 7.15 Construction.

(a) For purposes of this Agreement, whenever the context requires: singular terms will include the plural, and vice versa; the masculine gender will include the feminine and neuter genders; the feminine gender will include the masculine and neuter genders; and the neuter gender will include the masculine and feminine genders.

(b) As used in this Agreement, the words “include” and “including,” and variations thereof, will not be deemed to be terms of limitation, but rather will be deemed to be followed by the words “without limitation.”

(c) The headings contained in this Agreement are for convenience of reference only, will not be deemed to be a part of this Agreement and will not be referred to in connection with the construction or interpretation of this Agreement.

(d) Unless stated otherwise, “Article” and “Section” followed by a number or letter mean and refer to the specified Article or Section of this Agreement. The term “Agreement” and any reference in this Agreement to this Agreement or any other agreement or document includes, and is a reference to, this Agreement or such other agreement or document as it may have been, or may from time to time be, amended, restated, replaced, supplemented or novated and includes all schedules to it.

(e) A period of time is to be computed as beginning on the day following the event that began the period and ending at 4:30 p.m. on the last day of the period, if the last day of the period is a Business Day, or at 4:30 p.m. on the next Business Day if the last day of the period is not a Business Day.

(f) Any reference in this Agreement to a date or time shall be deemed to be such date or time in New York City, United States, unless otherwise specified. The Parties hereto and the Company have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties and the Company and no presumption or burden of proof shall arise favoring or disfavoring any Person by virtue of the authorship of any provision of this Agreement.

(g) All references herein to “$” are to United States Dollars.

[*Remainder of page intentionally left blank*]

IN WITNESS WHEREOF, each of the Parties has caused this Agreement to be executed as of the day and year first above written.

NEOLEUKIN THERAPEUTICS, INC.

By: _____
Name: Donna Cochener
Title Interim Chief Executive Officer

[Rights Agent]

By: _____
Name:
Title

[Lease Representative] (solely with respect to Section 4.6)

By: _____
Name:
Title

[*Signature Page to CVR Agreement*]

Annex B

CERTIFICATE OF AMENDMENT
OF AMENDED AND RESTATED CERTIFICATE OF INCORPORATION
OF NEOLEUKIN THERAPEUTICS, INC.

Neoleukin Therapeutics, Inc., a corporation organized and existing under the laws of the State of Delaware (the "***Company***"), hereby certifies as follows:

First: The current name of the Company is Neoleukin Therapeutics, Inc. The Company's original Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on May 25, 2007 under the name Aquinox Pharmaceuticals (USA) Inc. The Company filed with the Secretary of State of the State of Delaware an Amended and Restated Certificate of Incorporation of the Company on March 12, 2014 under the name Aquinox Pharmaceuticals, Inc., as amended by the Certificate of Amendment filed with the Secretary of State of the State of Delaware on August 9, 2019 under the name Neoleukin Therapeutics, Inc. and the Certificate of Amendment filed with the Secretary of State of the State of Delaware on November 13, 2019 (as so amended, the "***Restated Charter***").

Second: Article I of the Restated Charter is hereby amended and restated to read in its entirety as follows:

"**I.** The name of this corporation is Neurogene Inc. (the "***Company***")."

Third: Article IV, Section A is hereby amended and restated to read in its entirety as follows:

"**A.** The Company is authorized to issue two classes of stock to be designated, respectively, "***Common Stock***" and "***Preferred Stock***." The total number of shares that the Company is authorized to issue is shares. shares shall be Common Stock, each having a par value of $0.000001 per share. 5,000,000 shares shall be Preferred Stock, each having a par value of $0.000001 per share."

Fourth: Article IV of the Restated Charter is hereby amended by adding a new Section D as follows:

"**D.** Effective as of 12:01 a.m. Eastern Time on (the "***Effective Time***"), and without further action on the part of the Company or the Company's stockholders, every shares of Common Stock issued and outstanding immediately prior to the Effective Time shall automatically be reclassified and combined into one (1) validly issued, fully paid and non-assessable share of Common Stock or treasury share, as applicable, without any action by the holder thereof and shall represent one share of Common Stock from and after the Effective Time, subject to the treatment of fractional share interests as described below (such reclassification and combination of shares, the "***Reverse Stock Split***"). The par value of the Common Stock following the Reverse Stock Split shall remain at $0.000001 per share. No fractional shares shall be issued as a result of the Reverse Stock Split at the Effective Time. In lieu thereof, such stockholders who would otherwise be entitled to receive a fractional share shall be entitled to receive a cash payment (without interest and subject to withholding taxes) at a price equal to the fraction to which the stockholder would otherwise be entitled multiplied by the closing price of the Common Stock, as reported on the Nasdaq Stock Market LLC, on the last trading day prior to the Effective Time (or if such price is not available, the average of the last bid and asked prices of the Common Stock on such day or other price determined by the Board of Directors), as adjusted in good faith by the Company to account for the reverse stock split ratio. The Reverse Stock Split shall occur whether or not the certificates representing such shares of Common Stock are surrendered to the Company or its transfer agent. Each certificate or book entry position that immediately prior to the Effective Time represented shares of Common Stock shall thereafter represent the number of shares of Common Stock into which the shares of Common Stock represented by such

certificate or book entry position has been combined, subject to the elimination of fractional interests set forth above.”][1]

Fifth: Article VI of the Restated Charter is hereby amended and restated to read in its entirety as follows:

“**VI.**

A. To the fullest extent permitted by law, neither a director of the Company nor an officer of the Company shall be personally liable to the Company or its stockholders for monetary damages for breach of fiduciary duty as a director or officer, as applicable. Without limiting the effect of the preceding sentence, if the DGCL is hereafter amended to authorize the further elimination or limitation of the liability of a director or officer, then the liability of a director or officer, as applicable, of the Company shall be eliminated or limited to the fullest extent permitted by the DGCL, as so amended. Solely for purposes of this Section A of Article VI, “officer” shall have the meaning provided in Section 102(b)(7) of the DGCL.

B. Neither any amendment nor repeal of this Article VI, nor the adoption of any provision of this Restated Certificate inconsistent with this Article VI, shall eliminate, reduce or otherwise adversely affect any limitation on the personal liability of a director or officer of the Company existing at the time of such amendment, repeal or adoption of such an inconsistent provision.

C. To the fullest extent permitted by applicable law, the Company is authorized to provide indemnification of (and advancement of expenses to) directors, officers and agents of the Company (and any other persons to which applicable law permits the Company to provide indemnification) through Bylaw provisions, agreements with such agents or other persons, vote of stockholders or disinterested directors or otherwise in excess of the indemnification and advancement otherwise permitted by such applicable law.

D. Unless the Company consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for: (1) any derivative action or proceeding brought on behalf of the Company; (2) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Company to the Company or the Company’s stockholders; (3) any action asserting a claim against the Company arising pursuant to any provision of the DGCL, the certificate of incorporation or the Bylaws of the Company; or (4) any action asserting a claim against the Company governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Company shall be deemed to have notice of and to have consented to the provisions of this Section D of Article VI.”][2]

Sixth: The foregoing amendments were duly adopted by the Board of Directors of the Company in accordance with Sections 141 and 242 of the Delaware General Corporation Law and were approved by the holders of the requisite number of shares of capital stock of the Company.

Seventh: This Certificate of Amendment of the Restated Certificate shall be effective immediately upon filing with the Secretary of State of the State of Delaware.

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1. This amendment implements Proposals No. 2 and No. 4 and reflects the combination of any whole number of shares of the Company’s common stock between and including and into one share of the Company’s common stock. If only Proposal No. 2 is approved by stockholders and implemented by the Neoleukin board of directors, the Certificate of Amendment filed with the Secretary of State of the State of Delaware will include only the language reflected in Section D of Article IV at a ratio determined by the Neoleukin board of directors to be in the best interests of the Company and its stockholders.
2. This amendment implements Proposal No. 3.

IN WITNESS WHEREOF, the undersigned has executed this Certificate of Amendment on this [ ] day of [ ], 2023.

NEOLEUKIN THERAPEUTICS, INC.

By: _____
Name:
Title:

Annex E

July 17, 2023

The Board of Directors
Neoleukin Therapeutics, Inc.
188 East Blaine, Suite 450
Seattle, WA 98102

Ladies and Gentlemen:

You have requested our opinion as to the fairness, from a financial point of view to Neoleukin Therapeutics, Inc., a Delaware corporation ("***Parent***"), of the Exchange Ratio (as defined below) proposed to be paid by Parent pursuant to the terms of the Agreement and Plan of Merger (the "***Merger Agreement***") to be entered into by and among Parent, Project North Merger Sub, Inc., Inc., a Delaware corporation and a direct wholly owned subsidiary of Parent ("***Merger Sub***"), and Neurogene Inc., a Delaware corporation (the "Company"). The Merger Agreement provides for the acquisition by Parent of the Company through the merger of Merger Sub with and into the Company (the "***Merger***"), with the Company continuing as the surviving corporation in the Merger and as a wholly owned subsidiary of Parent. Capitalized terms used but not defined herein have the meanings set forth in the Merger Agreement. At the effective time of the Merger (the "***Effective Time***"), by virtue of the Merger and without any further action on the part of Parent, Merger Sub, the Company, or any stockholder of the Company or Parent, among other things, each share of Company Capital Stock and Company Pre-Funded Warrant outstanding immediately prior to the Effective Time (excluding Excluded Shares and Dissenting Shares (as defined below)) shall be converted solely into the right to receive a number of shares of the common stock, $0.000001 par value per share, of Parent (the "***Parent Common Stock***") equal to the Exchange Ratio or a warrant entitling the holder thereof to purchase shares of Parent Common Stock. As used herein, (i) the "***Exchange Ratio***" is the number of shares of Parent Common Stock to be received by holders of Company Capital Stock (other than Excluded Shares and Dissenting Shares) in the Merger, which is derived from the agreed relative valuations of the Company and Parent as set forth in the Merger Agreement; (ii) "***Excluded Shares***" means any shares of Company Capital Stock held as treasury stock immediately prior to the Effective Time (which shares shall be canceled and retired and shall cease to exist, and no consideration shall be delivered in exchange therefor); and (iii) "***Dissenting Shares***" means any shares of Company Capital Stock that are outstanding immediately prior to the Effective Time and which are held by stockholders who have exercised and perfected appraisal rights for such shares of Company Capital Stock in accordance with the General Corporation Law of the State of Delaware. The Exchange Ratio is subject to certain adjustments set forth in the Merger Agreement; we express no opinion as to any such adjustments. The Merger and the other transactions summarized above are collectively referred to herein as the "***Transaction***." The terms and conditions of the Transaction are more fully set forth in the Merger Agreement.

We have been engaged by Parent to act as its exclusive financial advisor in connection with the Transaction and we will receive a fee from Parent for providing such services, a portion of which is payable upon delivery of this opinion and the remaining (and principal) portion of which is contingent upon consummation of the Transaction. In addition, Parent has agreed to reimburse certain of our expenses arising, and indemnify us against certain liabilities that may arise, out of our engagement.

Leerink Partners LLC is a full-service securities firm engaged in securities trading and brokerage activities as well as investment banking and financial advisory services. In the ordinary course of business, we may, in the future, provide investment banking services to Parent, the Company, or their respective affiliates and would expect to receive customary fees for the rendering of such services. In the ordinary course of our trading and brokerage activities, we have in the past and may in the future hold positions, for our own account or the accounts of our customers, in equity, debt, or other securities of Parent, the Company, or their respective affiliates.

Consistent with applicable legal and regulatory requirements, we have adopted policies and procedures to establish and maintain the independence of our research department and personnel. As a result, our research analysts may hold views, make statements or investment recommendations, and/or publish research reports with respect to Parent, the Company and the Transaction, and other participants in the Transaction that differ from the views of our investment banking personnel.

In connection with this opinion, we have reviewed, among other things: (i) the proposed execution version of the Merger Agreement, as provided to us by the Company on July 17, 2023; (ii) the proposed execution version of the Contingent Value Rights Agreement to be entered into at the closing of the Transaction by Parent and a rights agent (the "***CVR Agreement***"), as provided to us by the Company on July 17, 2023, (iii) Parent's Annual Report on Form 10-K for the fiscal year ended December 31, 2022, as filed by Parent with the Securities and Exchange Commission (the "***SEC***"); (iv) Parent's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2023, as filed by Parent with the SEC; (v) certain Current Reports on Form 8-K, as filed by Parent with, or furnished by Parent to, the SEC; (vi) certain internal information, primarily related to expense forecasts, relating to the business, operations, earnings, cash flow, assets, liabilities and prospects of Parent, as furnished to us by the management of Parent; and (vii) certain internal information relating to the business, operations, earnings, cash flow, assets, liabilities and prospects of the Company, including certain financial forecasts, analyses and projections relating to the Company prepared by management of Parent, as furnished to, and approved for use by, us for purposes of our analysis (the "***Company Forecast***") (collectively, the "***Internal Data***"). We have also conducted discussions with members of the senior management of Parent and the Company and their respective advisors and representatives regarding such Internal Data as well as the past and current business, operations, financial condition and prospects of each of Parent and the Company. In addition, we reviewed certain financial data for the Company and compared that data to similar publicly available market, financial and other data for certain other companies, the securities of which are publicly traded, that we believe to be comparable in certain respects to the Company. We also conducted such other financial studies and analyses and took into account such other information as we deemed appropriate.

We have assumed, without independent verification or any responsibility therefor, the accuracy and completeness of the financial, legal, regulatory, tax, accounting and other information supplied to, discussed with, or reviewed by us for purposes of this opinion and have, with your consent, relied upon such information as being complete and accurate. In that regard, we have been advised by Parent, and have assumed, at your direction, that the Internal Data (including, without limitation, the Company Forecast) has been reasonably prepared on bases reflecting the best currently available estimates and judgments of the management of Parent and the Company as to the matters covered thereby and we have relied, at your direction, on the Internal Data for purposes of our analysis and this opinion. We express no view or opinion as to the Internal Data (including, without limitation, the Company Forecast) or the assumptions on which it is based. As you are aware, Parent's management did not provide us with, and we did not otherwise have access to, financial forecasts regarding Parent's business, other than the expense forecasts described above. Accordingly, we did not perform a discounted cash flow analysis or any multiples-based analysis with respect to Parent. In addition, at your

direction, we have not made any independent evaluation or appraisal of any of the assets or liabilities (contingent, derivative, off-balance-sheet, or otherwise) of Parent or the Company, nor have we been furnished with any such evaluation or appraisal, and we have not been asked to conduct, and did not conduct, a physical inspection of the properties or assets of Parent or the Company. Furthermore, at your direction, we have ascribed no value to the contingent value rights issuable pursuant to the CVR Agreement.

We have assumed, at your direction, that the final executed Merger Agreement and CVR Agreement will not differ in any respect material to our analysis or this opinion from the last versions reviewed by us. We have also assumed, at your direction, that the representations and warranties made by the Company and Parent and Merger Sub in the Merger Agreement are and will continue to be true and correct in all respects material to our analysis. Furthermore, we have assumed, at your direction, that the Transaction will be consummated on the terms set forth in the Merger Agreement and in accordance with all applicable laws and other relevant documents or requirements, without delay or the waiver, modification or amendment of any term, condition or agreement, the effect of which would be material to our analysis or this opinion and that, in the course of obtaining the necessary governmental, regulatory and other approvals, consents, releases and waivers for the Transaction, no delay, limitation, restriction, condition or other change will be imposed, the effect of which would be material to our analysis or this opinion. We have not evaluated and do not express any opinion as to the solvency or fair value of Parent or the Company, or their respective abilities to pay their obligations when they come due, or as to the impact of the Transaction on such matters, under any state, federal or other laws relating to bankruptcy, insolvency, or similar matters. We are not legal, regulatory, tax, or accounting advisors, and we express no opinion as to any legal, regulatory, tax, or accounting matters. We express no view or opinion as to the price or range of prices at which the shares of stock or other securities or instruments of Parent or any third party may trade at any time, including subsequent to the announcement or consummation of the Transaction.

We express no view as to, and our opinion does not address, Parent’s underlying business decision to proceed with or effect the Transaction, or the relative merits of the Transaction as compared to any alternative business strategies or transactions that might be available to Parent or in which Parent might engage. This opinion is limited to and addresses only the fairness, from a financial point of view, as of the date hereof, to Parent of the Exchange Ratio proposed to be paid by Parent pursuant to the terms of the Merger Agreement. We have not been asked to, nor do we express any view on, and our opinion does not address, any other term or aspect of the Merger Agreement or the Transaction, including, without limitation, the structure or form of the Transaction, or any other agreements or arrangements contemplated by the Merger Agreement or entered into in connection with or otherwise contemplated by the Transaction, including, without limitation, the fairness of the Transaction or any other term or aspect of the Transaction to, or any consideration to be received in connection therewith by, or the impact of the Transaction on, the holders of any class of securities, creditors or other constituencies of Parent, the Company or any other party. In addition, we express no view or opinion as to the fairness (financial or otherwise) of the amount, nature, or any other aspect of any compensation to be paid or payable to any of the officers, directors, or employees of Parent, the Company or any other party, or class of such persons in connection with the Transaction, whether relative to the Exchange Ratio proposed to be paid by Parent pursuant to the terms of the Merger Agreement or otherwise. Our opinion is necessarily based on financial, economic, monetary, currency, market, and other conditions and circumstances as in effect on, and the information made available to us as of, the date hereof, and we do not have any obligation or responsibility to update, revise or reaffirm this opinion based on circumstances, developments or events occurring after the date hereof. Our opinion does not constitute a recommendation to any stockholder of Parent or the Company as to whether or how such stockholder should vote with respect to the Merger or otherwise act with respect to the Transaction or any other matter.

Our financial advisory services and the opinion expressed herein are provided for the information and assistance of the Board of Directors of Parent (in their capacity as directors and not in any other capacity) in connection with and for purposes of its consideration of the Transaction. This opinion has been authorized by the Leerink Partners LLC Fairness Opinion Review Committee.

Based upon and subject to the foregoing, including the various assumptions, qualifications, and limitations set forth herein, it is our opinion that, as of the date hereof, the Exchange Ratio proposed to be paid by Parent pursuant to the terms of the Merger Agreement is fair, from a financial point of view, to Parent.

Very truly yours,

/s/ LEERINK PARTNERS LLC

PART II
INFORMATION NOT REQUIRED IN PROXY STATEMENT/PROSPECTUS

Item 20. Indemnification of Directors and Officers

Section 145 of the DGCL authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys' fees) judgments, fines and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys' fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

Neoleukin has adopted provisions in its charter that limit or eliminate the personal liability of Neoleukin's directors to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, a director will not be personally liable to Neoleukin or its stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to Neoleukin or its stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any unlawful payments related to dividends or unlawful stock purchases, redemptions or other distributions; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, Neoleukin's bylaws provide that:

- Neoleukin will indemnify its directors, officers and, in the discretion of its board of directors, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- Neoleukin will advance expenses, including attorneys' fees, to its directors and, in the discretion of its board of directors, to its officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of Neoleukin, subject to limited exceptions.

Neoleukin has entered into indemnification agreements with its directors and executive officers. These agreements provide that Neoleukin will indemnify each of its directors and executive officers to the fullest extent permitted by Delaware law. Neoleukin will advance expenses, including attorneys' fees (but excluding judgments, fines and settlement amounts), to each indemnified director or executive officer in connection with any proceeding in which indemnification is available and Neoleukin will indemnify its directors and officers for any action or proceeding arising out of that person's services as a director or officer brought on behalf of Neoleukin or in furtherance of Neoleukin's rights. Additionally, certain of Neoleukin's directors may have certain rights to indemnification, advancement of expenses or insurance provided by their affiliates or other third parties, which indemnification relates to and might apply to the same proceedings arising out of such director's services as a director referenced herein. Nonetheless, Neoleukin has agreed in the indemnification agreements

that Neoleukin's obligations to those same directors are primary and any obligation of such affiliates or other third parties to advance expenses or to provide indemnification for the expenses or liabilities incurred by those directors are secondary.

Neoleukin also maintains general liability insurance which covers certain liabilities of its directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act.

Under the Merger Agreement, from the effective time through the sixth anniversary of the date of the effective time, Neoleukin and the surviving corporation agree to indemnify and hold harmless each person who was, as of May 2, 2023, the signing date of the Merger Agreement, or had been at any time prior, or who becomes prior to the effective time, a director or officer of Neoleukin or Neurogene, against all claims, losses, liabilities, damages, judgments, fines and reasonable fees, costs and expenses pertaining to claims arising out of the fact that such person was a director or officer of Neoleukin or Neurogene, at or prior to the effective time, to the fullest extent permitted under the DGCL.

Under the Merger Agreement, the certificate of incorporation and bylaws of the surviving corporation in the merger with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers of Neoleukin that are set forth in Neoleukin's charter and bylaws in effect as of July 17, 2023, the date of the Merger Agreement, shall not be amended, modified or repealed for a period of six years from the effective time in a manner that would adversely affect the rights of such individuals who at the effective time were officers or directors of Neoleukin, unless required by applicable law.

The Merger Agreement also provides that Neoleukin shall purchase an insurance policy in effect for six years from the effective time, providing no less favorable coverage as the current directors' and officers' liability insurance policies maintained by Neoleukin with respect to any actual or alleged error, misstatement, misleading statement, act, omission, neglect, breach of duty or any matter claimed against the current and former officers and directors of Neoleukin.

Item 21. Exhibits and Financial Statement Schedules

(a) Exhibit Index A list of exhibits filed with this registration statement on Form S-4 is set forth on the Exhibit Index and is incorporated herein by reference.

(b) Financial Statements The financial statements filed with this registration statement on Form S-4 are set forth on the Financial Statement Index and is incorporated herein by reference.

Item 22. Undertakings

(a) The registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Filing Fee Table" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) herein do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act (15 U.S.C. 78m or 78o(d)) that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

Exhibit Number	Description
2.1*†	Agreement and Plan of Merger, dated as of July 17, 2023, by and among Neoleukin Therapeutics, Inc., Project North Merger Sub, Inc. and Neurogene Inc. (included as Annex A to the proxy statement/prospectus).
3.1	Amended and Restated Certificate of Incorporation of Neoleukin Therapeutics, Inc. (Incorporated by reference to Exhibit 3.1 to Neoleukin Therapeutics, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on March 12, 2014).
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation of Neoleukin Therapeutics, Inc., filed August 9, 2019. (Incorporated by reference to Exhibit 3.4 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019 filed with the Securities and Exchange Commission on November 13, 2019).
3.3	Certificate of Amendment to Amended and Restated Certificate of Incorporation of Neoleukin Therapeutics, Inc., filed November 13, 2019. (Incorporated by reference to Exhibit 3.5 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019 filed with the Securities and Exchange Commission on November 13, 2019.)

Exhibit Number	Description
3.4	Certificate of Designation of Preferences, Rights and Limitations of Series A Convertible Stock of Neoleukin Therapeutics, Inc., filed August 8, 2019 (Incorporated by reference to Exhibit 3.1 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission August 12, 2019).
3.5	Amended and Restated Bylaws of Neoleukin Therapeutics, Inc. (Incorporated by reference to Exhibit 3.1 to Neoleukin Therapeutics, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on January 23, 2023).
4.1	Specimen Common Stock Certificate of Neoleukin Therapeutics, Inc. (Incorporated by reference to Exhibit 4.1 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended March 31, 2014 filed with the Securities and Exchange Commission on May 13, 2014).
4.2	Registration Rights Agreement, dated September 19, 2016, by and between Aquinox Pharmaceuticals, Inc. and the persons listed on Schedule A attached thereto (Incorporated by reference to Exhibit 10.1 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 20, 2016).
4.3	Description of Securities Registered Under Section 12 of the Securities Exchange Act of 1934, as amended. (Incorporated by reference to Exhibit 4.3 to Neoleukin's Annual Report on Form 10-K for the year ended December 31, 2019 filed with the Securities and Exchange Commission on March 12, 2020).
4.4	Form of Pre-Funded Warrant (Incorporated by reference to Exhibit 4.1 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 19, 2019).
4.5	Form of Pre-Funded Warrant (Incorporated by reference to Exhibit 4.1 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 2, 2020).
5.1**	Opinion of Fenwick & West LLP, counsel of Neoleukin Therapeutics, Inc.
10.1	Exclusive Start-Up License Agreement, dated July 8, 2019, by and between the University of Washington and Neoleukin Therapeutics, Inc. (Incorporated by reference to Exhibit 10.1 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission August 12, 2019).
10.2	Lease Agreement, dated September 23, 2019, by and between Neoleukin Therapeutics, Inc. and ARE-Eastlake Avenue No. 3, LLC. (Incorporated by reference to Exhibit 10.7 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019 filed with the Securities and Exchange Commission on November 13, 2019).
10.3	Lease Agreement, dated December 23, 2019, by and between Neoleukin Therapeutics, Inc. and ARE-Eastlake Avenue No. 3, LLC (Incorporated by reference to Exhibit 10.8 to Neoleukin's Annual Report on Form 10-K for the year ended December 31, 2019 filed with the Securities and Exchange Commission on March 12, 2020).
10.4#	Neoleukin Therapeutics, Inc. Amended and Restated 2014 Equity Incentive Plan, as amended and restated on May 13, 2021 (Incorporated by reference to Exhibit 10.1 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 14, 2021).
10.5#	Forms of Option Agreement and Option Grant Notice for Neoleukin Therapeutics, Inc.'s 2014 Equity Incentive Plan. (Incorporated by reference to Exhibit 10.4 to Neoleukin's Registration Statement on Form S-1 (File No. 333-193615) filed with the Securities and Exchange Commission on January 28, 2014).
10.6#	Neoleukin Therapeutics, Inc. 2020 Employee Stock Purchase Plan (Incorporated by reference to Exhibit 10.1 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 6, 2020).

Exhibit Number	Description
10.7	Form of Indemnity Agreement entered into between Neoleukin Therapeutics, Inc. and each of its directors and its executive officers (Incorporated by reference to Exhibit 10.5 to Neoleukin's Registration Statement on Form S-1 (File No. 333-193615) filed with the Securities and Exchange Commission on January 28, 2014).
10.8†	Exchange Agreement, dated December 17, 2019, by and among Neoleukin Therapeutics, Inc., 667, L.P. and Baker Brothers Life Sciences, L.P. (Incorporated by reference to Exhibit 10.1 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 19, 2019).
10.9#	Amended and Restated Executive Employment Agreement, dated April 15, 2020, by and between Neoleukin Therapeutics, Inc., and Jonathan G. Drachman (Incorporated by reference to Exhibit 10.1 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on April 17, 2020).
10.10	First Amendment to Lease, dated June 18, 2020, by and between Neoleukin Therapeutics, Inc. and ARE-Eastlake Avenue No. 3, LLC. (Incorporated by reference to Exhibit 10.1 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020 filed with the Securities and Exchange Commission on August 12, 2020).
10.11	Form of Restricted Stock Unit Grant Notice for Neoleukin Therapeutics, Inc.'s 2014 Equity Incentive Plan. (Incorporated by reference to Exhibit 10.2 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020 filed with the Securities and Exchange Commission on August 12, 2020).
10.12#	Amendment No. 1 to Exclusive Start-Up License Agreement, dated July 24, 2020, by and between the University of Washington and Neoleukin Therapeutics, Inc. (Incorporated by reference to Exhibit 10.21 to Neoleukin's Annual Report on Form 10-K for the year ended December 31, 2020 filed with the Securities and Exchange Commission on March 25, 2021).
10.13	First Amendment to Lease, dated November 5, 2020, by and between Neoleukin Therapeutics, Inc. and ARE-Seattle No. 28, LLC (Incorporated by reference to Exhibit 10.24 to Neoleukin's Annual Report on Form 10-K for the year ended December 31, 2020 filed with the Securities and Exchange Commission on March 25, 2021).
10.14	Second Amendment to Lease, dated March 24, 2021, by and between Neoleukin Therapeutics, Inc. and ARE-Seattle No. 28, LLC. (Incorporated by reference to Exhibit 10.1 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended March 31, 2021 filed with the Securities and Exchange Commission on May 12, 2021).
10.15	Amendment No. 2 to Exclusive Start-Up License Agreement, dated December 15, 2021, by and between the University of Washington and Neoleukin Therapeutics, Inc. (Incorporated by reference to Neoleukin's Annual Report on Form 10-K for the year ended December 31, 2021 filed with the Securities and Exchange Commission on March 1, 2022).
10.16	ATM Equity Offering Sales Agreement, dated November 4, 2021, by and between Neoleukin Therapeutics, Inc. and BofA Securities, Inc. (Incorporated by reference to Exhibit 1.1 to Neoleukin's Current Report on Form 8-K filed with the Securities Exchange Commission on November 4, 2021).
10.17#	Employment Agreement, dated April 14, 2021, by and between Neoleukin Therapeutics, Inc. and Priti Patel. (Incorporated by reference to Exhibit 10.21 to Neoleukin's Annual Report on Form 10-K for the year ended December 31, 2021 filed with the Securities and Exchange Commission on March 1, 2022).

Exhibit Number	Description
10.18#	Employment Agreement, dated March 4, 2022, by and between Neoleukin Therapeutics, Inc. and Donna M. Cochener (Incorporated by reference to Exhibit 10.19 to Neoleukin's Annual Report on Form 10-K for the year ended December 31, 2022 filed with the Securities and Exchange Commission on March 20, 2023).
10.19#	Employment Agreement Amendment dated as of April 3, 2023 and effective March 31, 2023, by and between Neoleukin Therapeutics, Inc. and Donna M. Cochener (Incorporated by reference to Exhibit 10.3 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 filed with the Securities and Exchange Commission on May 8, 2023).
10.20#	Employment Agreement dated August 3, 2022 by and between Neoleukin Therapeutics, Inc. and Sean Smith (Incorporated by reference to Exhibit 10.4 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 filed with the Securities and Exchange Commission on May 8, 2023).
10.21#	Employment Agreement Amendment dated as of April 3, 2023 and effective March 31, 2023, by and between Neoleukin Therapeutics, Inc. and Sean Smith (Incorporated by reference to Exhibit 10.5 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 filed with the Securities and Exchange Commission on May 8, 2023).
10.22#	Separation Agreement dated March 6, 2023 and effective March 31, 2023, by and between Neoleukin Therapeutics, Inc. and Jonathan Drachman (Incorporated by reference to Exhibit 10.2 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 filed with the Securities and Exchange Commission on May 8, 2023).
10.23#	Separation Agreement dated March 31, 2023, by and between Neoleukin Therapeutics, Inc. and Priti Patel (Incorporated by reference to Exhibit 10.1 to Neoleukin's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 filed with the Securities and Exchange Commission on May 8, 2023).
10.24	Form of Contingent Value Rights Agreement (Incorporated by reference to Exhibit 10.1 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 18, 2023).
10.25	Form of Neurogene Support Agreement (Incorporated by reference to Exhibit 10.2 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 18, 2023).
10.26	Form of Neoleukin Support Agreement (Incorporated by reference to Exhibit 10.3 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 18, 2023).
10.27	Form of Lock-Up Agreement (Incorporated by reference to Exhibit 10.4 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 18, 2023).
10.28	Letter Agreement, dated July 17, 2023, by and between Neoleukin Therapeutics, Inc. and Baker Bros. Advisors LP (Incorporated by reference to Exhibit 10.5 to Neoleukin's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 18, 2023).
10.29**	Master Research Collaboration Agreement, dated December 4, 2020, by and between Neurogene Inc. and The University Court of The University of Edinburgh.
10.30**	Option Agreement, dated January 7, 2020, by and between Neurogene Inc. and The University Court of the University of Edinburgh.
10.31**	License Agreement, dated March 4, 2022, by and between The University Court of the University of Edinburgh and Neurogene Inc.
10.32**	Exclusive License Agreement, dated May 16, 2019, by and between The University of North Carolina at Chapel Hill and Neurogene Inc.

Exhibit Number	Description
10.33**	Non-Exclusive License Agreement, dated September 30, 2020, by and between Neurogene Inc. and Virovek, Inc.
10.34**	Non-Exclusive License Agreement, dated January 19, 2023, by and between Sigma-Aldrich Co. LLC and Neurogene Inc.
10.35**	Lease Agreement, dated August 5, 2019, by and between Stella Link Investments, Ltd. and Neurogene Inc., as amended by that certain First Amendment to Lease Agreement, dated September 17, 2020, by and between Stella Link Investments, Ltd. and Neurogene Inc.
10.36**	Sublease Agreement, dated May 16, 2019, by and between GPB Capital Holdings, LLC and Neurogene Inc., as amended and assumed pursuant to that certain Assumption and Attornment of Lease and Release Agreement, dated July 30, 2021, by and among GTM Associates, LLC, GPB Capital Holdings, LLC and Neurogene Inc., as further amended by that certain Amendment to Attorned Sublease, dated February 22, 2022, by and between GTM Associates, LLC and Neurogene Inc.
21.1*	List of Subsidiaries of Neoleukin Therapeutics, Inc.
23.1*	Consent of Ernst and Young LLP, independent registered public accounting firm of Neurogene Inc.
23.2*	Consent of Deloitte & Touche LLP, independent registered public accounting firm of Neoleukin Therapeutics, Inc.
23.3**	Consent of Fenwick & West LLP (included in Exhibit 5.1).
24.1*	Power of Attorney (included on signature page).
99.1**	Form of Neoleukin Therapeutics, Inc. proxy card.
99.2**	Proposed form of Certificate of Amendment of Amended and Restated Certificate of Incorporation of Neoleukin Therapeutics, Inc.—Reverse Stock Split (included as *Annex B* to the proxy statement/prospectus and incorporated herein by reference).
99.3**	Proposed form of Certificate of Amendment of Amended and Restated Certificate of Incorporation of Neoleukin Therapeutics, Inc.—Officer Exculpation (included as *Annex B* to the proxy statement/prospectus and incorporated herein by reference).
99.4*	Consent of Rohan Palekar to serve as a director of Neoleukin Therapeutics, Inc., to be renamed Neurogene Inc.
99.5*	Consent of Sarah Noonberg to serve as a director of Neoleukin Therapeutics, Inc., to be renamed Neurogene Inc.
99.6*	Consent of Cory Freedland to serve as a director of Neoleukin Therapeutics, Inc., to be renamed Neurogene Inc.
99.7*	Consent of Srdjan Stankovic to serve as a director of Neoleukin Therapeutics, Inc., to be renamed Neurogene Inc.
99.8*	Consent of Robert Baffi to serve as a director of Neoleukin Therapeutics, Inc., to be renamed Neurogene Inc.
99.9*	Consent of Rachel McMinn to serve as a director of Neoleukin Therapeutics, Inc., to be renamed Neurogene Inc.
99.10*	Consent of Leerink Partners LLC.
101.INS*	XBRL Instance Document.
101.SCH*	XBRL Taxonomy Extension Schema.
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase.

Exhibit Number	Description
101.DEF*	XBRL Taxonomy Extension Definition Linkbase.
101.LAB*	XBRL Taxonomy Extension Label Linkbase.
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase.
107*	Filing fee table.

* Filed herewith.

** To be filed by amendment.

# Indicates management contract or compensatory plan.

† The annexes, schedules, and certain exhibits to the Merger Agreement have been omitted pursuant to Item 601(b)(2) of Regulation S-K. Neoleukin Therapeutics, Inc. hereby agrees to furnish supplementally a copy of any omitted annex, schedule or exhibit to the Commission upon request.

†† Portions of this exhibit (indicated by asterisks) have been omitted in accordance with the rules of the Securities and Exchange Commission.

SIGNATURES

Pursuant to the requirements of the Securities Act, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Seattle, State of Washington, on August 18, 2023.

NEOLEUKIN THERAPEUTICS, INC.

By: /s/ Donna M. Cochener
Name: Donna M. Cochener
Title: Interim Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Donna M. Cochener and Sean Smith, and each of them individually, as his or her true and lawful attorney-in-fact and agent, with full powers of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments and any related registration statements filed pursuant to Rule 462 and otherwise), and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent and full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming that said attorney-in-fact and agent, or any substitute or resubstitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Donna M. Cochener Donna M. Cochener	Interim Chief Executive Officer (Principal Executive Officer)	August 18, 2023
/s/ Sean Smith Sean Smith	Interim Chief Financial Officer (Principal Financial and Accounting Officer)	August 18, 2023
/s/ Martin Babler Martin Babler	Director	August 18, 2023
/s/ M. Cantey Boyd M. Cantey Boyd	Director	August 18, 2023
/s/ Erin Lavelle Erin Lavelle	Director	August 18, 2023

/s/ Sarah Noonberg Sarah Noonberg	Director	August 18, 2023
/s/ Rohan Palekar Rohan Palekar	Director	August 18, 2023
/s/ Todd Simpson Todd Simpson	Director	August 18, 2023

Exhibit 21.1

LIST OF SUBSIDIARIES OF NEOLEUKIN THERAPEUTICS, INC.

Subsidiaries	Incorporation
None	

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption “Experts” and to the use of our report dated August 18, 2023, with respect to the financial statements of Neurogene Inc. included in the Registration Statement (Form S-4) and related proxy statement/prospectus of Neoleukin Therapeutics, Inc.

/s/ Ernst & Young LLP

Stamford, Connecticut

August 18, 2023

Exhibit 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the use in this Registration Statement on Form S-4 of our report dated March 20, 2023, relating to the financial statements of Neoleukin Therapeutics, Inc. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ Deloitte & Touche LLP

Seattle, Washington

August 18, 2023

Exhibit 99.4

Rohan Palekar
c/o Neoleukin Therapeutics, Inc.
188 East Blaine Street, Suite 450
Seattle, Washington 98102

Consent to Reference in Proxy Statement/Prospectus

Neoleukin Therapeutics, Inc. is filing a Registration Statement on Form S-4 (the "Registration Statement") with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"). In connection therewith, I hereby consent, pursuant to Rule 438 of the Securities Act, to the reference to me in the proxy statement/prospectus included in such registration statement as a future member of the board of directors of the combined company following the consummation of the merger. I also consent to the filing of this consent as an exhibit to the Registration Statement.

Sincerely,

/s/ Rohan Palekar
Name: Rohan Palekar

Exhibit 99.5

Sarah Noonberg, MD, PhD
c/o Neoleukin Therapeutics, Inc.
188 East Blaine Street, Suite 450
Seattle, Washington 98102

Consent to Reference in Proxy Statement/Prospectus

Neoleukin Therapeutics, Inc. is filing a Registration Statement on Form S-4 (the "Registration Statement") with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"). In connection therewith, I hereby consent, pursuant to Rule 438 of the Securities Act, to the reference to me in the proxy statement/prospectus included in such registration statement as a future member of the board of directors of the combined company following the consummation of the merger. I also consent to the filing of this consent as an exhibit to the Registration Statement.

Sincerely,

/s/ Sarah Noonberg, MD, PhD
Name: Sarah Noonberg, MD, PhD

Exhibit 99.6

Cory Freedland
c/o Neurogene Inc.
535 W 24th Street, 5th Floor
New York, NY 10011

Consent to Reference in Proxy Statement/Prospectus

Neoleukin Therapeutics, Inc. is filing a Registration Statement on Form S-4 (the "Registration Statement") with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"). In connection therewith, I hereby consent, pursuant to Rule 438 of the Securities Act, to the reference to me in the proxy statement/prospectus included in such registration statement as a future member of the board of directors of the combined company following the consummation of the merger. I also consent to the filing of this consent as an exhibit to the Registration Statement.

Sincerely,

/s/ Cory Freedland
Name: Cory Freedland

Exhibit 99.7

Srdjan Stankovic
c/o Neurogene Inc.
535 W 24th Street, 5th Floor
New York, NY 10011

Consent to Reference in Proxy Statement/Prospectus

Neoleukin Therapeutics, Inc. is filing a Registration Statement on Form S-4 (the "Registration Statement") with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"). In connection therewith, I hereby consent, pursuant to Rule 438 of the Securities Act, to the reference to me in the proxy statement/prospectus included in such registration statement as a future member of the board of directors of the combined company following the consummation of the merger. I also consent to the filing of this consent as an exhibit to the Registration Statement.

Sincerely,

/s/ Srdjan Stankovic
Name: Srdjan Stankovic

Exhibit 99.8

Robert Baffi
c/o Neurogene Inc.
535 W 24th Street, 5th Floor
New York, NY 10011

Consent to Reference in Proxy Statement/Prospectus

Neoleukin Therapeutics, Inc. is filing a Registration Statement on Form S-4 (the "Registration Statement") with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"). In connection therewith, I hereby consent, pursuant to Rule 438 of the Securities Act, to the reference to me in the proxy statement/prospectus included in such registration statement as a future member of the board of directors of the combined company following the consummation of the merger. I also consent to the filing of this consent as an exhibit to the Registration Statement.

Sincerely,

/s/ Robert Baffi
Name: Robert Baffi

Exhibit 99.9

Rachel McMinn, Ph.D.
c/o Neurogene Inc.
535 W 24th Street, 5th Floor
New York, NY 10011

Consent to Reference in Proxy Statement/Prospectus

Neoleukin Therapeutics, Inc. is filing a Registration Statement on Form S-4 (the "Registration Statement") with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"). In connection therewith, I hereby consent, pursuant to Rule 438 of the Securities Act, to the reference to me in the proxy statement/prospectus included in such registration statement as a future member of the board of directors of the combined company following the consummation of the merger. I also consent to the filing of this consent as an exhibit to the Registration Statement.

Sincerely,

/s/ Rachel McMinn, Ph.D.

Name: Rachel McMinn, Ph.D.

Exhibit 99.10

CONSENT OF LEERINK PARTNERS LLC

We hereby consent to the use of our opinion letter dated July 17, 2023, to the Board of Directors of Neoleukin Therapeutics, Inc., included as Annex E to the proxy statement/prospectus which forms a part of the Registration Statement on Form S-4 of Neoleukin Therapeutics, Inc., to be filed on the date hereof, and to the references to such opinion in such proxy statement/prospectus under the captions: "Prospectus Summary – Opinion of Leerink Partners to the Neoleukin Board of Directors," "The Merger – Background of the Merger," "The Merger – Neoleukin's Reasons for the Merger," and "The Merger – Opinion of Leerink Partners to the Neoleukin Board of Directors". In giving such consent, we do not admit that we come within the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission thereunder, nor do we thereby admit that we are experts with respect to any part of such Registration Statement within the meaning of the term "expert" as used in the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission thereunder. Additionally, such consent does not cover any future amendments to the Registration Statement.

/s/ LEERINK PARTNERS LLC

New York, New York
August 18, 2023

Exhibit 107

Calculation of Filing Fee Tables

Form S-4
(Form Type)

NEOLEUKIN THERAPEUTICS, INC.
(Exact Name of Registrant as Specified in its Charter)
Table 1 - Newly Registered and Carry Forward Securities

	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial effective date	Filing Fee Previously Paid In Connection with Unsold Securities to be Carried Forward
Newly Registered Securities												
Fees to Be Paid	Equity	Common Stock, $0.000001 par value per share	Other	460,000,000 (1)	(2)	$15,333.33 (2)	$0.0001102	$1.69				
Fees Previously Paid	—	—	—	—	—	—		—				
Carry Forward Securities												
Carry Forward Securities	—	—	—	—		—			—	—	—	—
	Total Offering Amounts					$15,333.33 (2)	—	$1.69				
	Total Fees Previously Paid							—				
	Total Fee Offsets							—				
	Net Fee Due							$1.69				

Exhibit 107

(1) Relates to common stock, $0.000001 par value per share, of Neoleukin Therapeutics, Inc., a Delaware corporation ("Neoleukin"), issuable to holders of common stock, $0.0001 par value per share of Neurogene Inc., a Delaware corporation ("Neurogene"), in the proposed merger of Project North Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of Neoleukin, with and into Neurogene, with Neurogene surviving as a wholly owned subsidiary of Neoleukin, and Neoleukin being the surviving corporation of the merger. The amount of common stock of Neoleukin to be registered includes the estimated maximum number of shares of common stock of Neoleukin that are expected to be issued (or become issuable) pursuant to the merger, without taking into account the effect of a reverse stock split of common stock of Neoleukin, assuming an estimated pre-split exchange ratio (which is subject to adjustment prior to the closing of the merger) of approximately 1.7378 shares of common stock of Neoleukin for each outstanding share of common stock of Neurogene.

(2) Estimated solely for purposes of calculating the registration fee in accordance with Rule 457(f)(2) of the U.S. Securities Act of 1933, as amended. Neurogene is a private company, no market exists for its securities, and it has an accumulated capital deficit. Therefore, the proposed maximum aggregate offering price for the shares expected to be issued pursuant to the merger (other than shares of common stock of Magenta issued in exchange for shares of Neurogene common stock sold in the Neurogene pre-closing financing) is one-third of the aggregate par value of the Dianthus securities expected to be exchanged in the proposed merger (other than shares of Neurogene common stock sold in the Neurogene pre-closing financing).