UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

SCHEDULE 13D
Under the Securities Exchange Act of 1934

(Amendment No. 14)

Neoleukin Therapeutics, Inc.

(Name of Issuer)

Common Stock, par value $0.000001 per share

(Title of Class of Securities)

64049K104

(CUSIP number)

Alexandra A. Toohey
Chief Financial Officer
Baker Bros. Advisors LP
860 Washington Street, 3rd Floor
New York, NY 10014
(212) 339-5690

(Name, address and telephone number of person authorized to receive notices and communications)

July 17, 2023

(Date of event which requires filing of this statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box. ☒

(Continued on the following pages)

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1.	NAMES OF REPORTING PERSONS Baker Bros. Advisors LP		
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) ☐ (b) ☐		
3.	SEC USE ONLY		
4.	SOURCE OF FUNDS* OO		
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) o		
6.	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7.	SOLE VOTING POWER 10,040,817 (1)	
	8.	SHARED VOTING POWER: 0	
	9.	SOLE DISPOSITIVE POWER: 10,040,817 (1)	
	10.	SHARED DISPOSITIVE POWER: 0	
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 10,040,817 (1)		
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) ☐		
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 19.99% (1)(2)		
14.	TYPE OF REPORTING PERSON (See Instructions) IA, PN		

(1) Includes 6,115,827 shares of common stock ("Common Stock") of Neoleukin Therapeutics, Inc. (the "Issuer") issuable upon the exercise of 6,115,827 Pre-Funded Warrants (as defined in Item 4 and subject to a beneficial ownership limitation as described therein) and 103,250 shares of Common Stock underlying 103,250 non-qualified options exercisable for Common Stock ("Stock Options").

(2) Based on 44,021,429 shares of Common Stock outstanding as of July 14, 2023, as disclosed in the Merger Agreement (as defined in Item 4) filed as Exhibit 2.1 to the Issuer's Form 8-K filed with the Securities and Exchange Commission ("SEC") on July 8, 2023.

1.	NAMES OF REPORTING PERSONS Baker Bros. Advisors (GP) LLC		
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) ☐ (b) ☐		
3.	SEC USE ONLY		
4.	SOURCE OF FUNDS* OO		
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) o		
6.	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7.	SOLE VOTING POWER 10,040,817 (1)	
	8.	SHARED VOTING POWER: 0	
	9.	SOLE DISPOSITIVE POWER: 10,040,817 (1)	
	10.	SHARED DISPOSITIVE POWER: 0	
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 10,040,817 (1)		
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) ☐		
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 19.99% (1)(2)		
14.	TYPE OF REPORTING PERSON (See Instructions) HC, OO		

(1) Includes 6,115,827 shares of Common Stock issuable upon the exercise of 6,115,827 Pre-Funded Warrants (as defined in Item 4 and subject to a beneficial ownership limitation as described therein) and 103,250 shares of Common Stock underlying 103,250 Stock Options.

(2) Based on 44,021,429 shares of Common Stock outstanding as of July 14, 2023, as disclosed in the Merger Agreement (as defined in Item 4) filed as Exhibit 2.1 to the Issuer's Form 8-K filed with the SEC on July 18, 2023.

1.	NAMES OF REPORTING PERSONS Julian C. Baker		
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) ☐ (b) ☐		
3.	SEC USE ONLY		
4.	SOURCE OF FUNDS* OO		
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) ☐		
6.	CITIZENSHIP OR PLACE OF ORGANIZATION United States		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH		7.	SOLE VOTING POWER: 10,043,077 (1)
		8.	SHARED VOTING POWER: 0
		9.	SOLE DISPOSITIVE POWER: 10,043,077 (1)
		10.	SHARED DISPOSITIVE POWER: 0
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 10,043,077 (1)		
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) ☐		
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 19.99% (1)(2)		
14.	TYPE OF REPORTING PERSON (See Instructions) IN, HC		

(1) Includes 6,115,827 shares of Common Stock issuable upon the exercise of 6,115,827 Pre-Funded Warrants (as defined in Item 4 and subject to a beneficial ownership limitation as described therein) and 103,250 shares of Common Stock underlying 103,250 Stock Options.

(2) Based on 44,021,429 shares of Common Stock outstanding as of July 14, 2023, as disclosed in the Merger Agreement (as defined in Item 4) filed as Exhibit 2.1 to the Issuer's Form 8-K filed with the SEC on July 18, 2023.

1.	NAMES OF REPORTING PERSONS Felix J. Baker		
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) ☐ (b) ☐		
3.	SEC USE ONLY		
4.	SOURCE OF FUNDS (See Instructions) OO		
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) o		
6.	CITIZENSHIP OR PLACE OF ORGANIZATION United States		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH		7.	SOLE VOTING POWER: 10,043,077 (1)
		8.	SHARED VOTING POWER: 0
		9.	SOLE DISPOSITIVE POWER: 10,043,077 (1)
		10.	SHARED DISPOSITIVE POWER: 0
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 10,043,077 (1)		
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) ☐		
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 19.99% (1)(2)		
14.	TYPE OF REPORTING PERSON (See Instructions) IN, HC		

(1) Includes 6,115,827 shares of Common Stock issuable upon the exercise of 6,115,827 Pre-Funded Warrants (as defined in Item 4 and subject to a beneficial ownership limitation as described therein) and 103,250 shares of Common Stock underlying 103,250 Stock Options.

(2) Based on 44,021,429 shares of Common Stock outstanding as of July 14, 2023, as disclosed in the Merger Agreement (as defined in Item 4) filed as Exhibit 2.1 to the Issuer's Form 8-K filed with the SEC on July 18, 2023.

Amendment No. 14 to Schedule 13D

This Amendment No. 14 to Schedule 13D amends and supplements the previously filed Schedules 13D filed by Baker Bros. Advisors LP (the "Adviser"), Baker Bros. Advisors (GP) LLC (the "Adviser GP"), Julian C. Baker and Felix J. Baker. Except as supplemented herein, such statements, as heretofore amended and supplemented, remain in full force and effect.

The Adviser GP is the sole general partner of the Adviser. Pursuant to the management agreements, as amended, among the Adviser, Baker Brothers Life Sciences, L.P. ("Life Sciences") and 667, L.P. ("667", and together with Life Sciences, 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.

Information given in response to each item shall be deemed incorporated by reference in all other items, as applicable.

Item 4. Purpose of the Transaction.

Item 4 of Schedule 13D is supplemented and amended, as the case may be, as follows:

Merger Agreement

On July 17, 2023, Neoleukin Therapeutics, Inc. (the "Issuer"), Project North Merger Sub, Inc., a wholly owned subsidiary of Issuer ("Merger Sub"), and Neurogene Inc. ("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 the Issuer and the surviving corporation of the merger (the "Merger").

Subject to the terms and conditions of the Merger Agreement, at the closing of the Merger: (a) each then-outstanding share of Neurogene capital stock (including shares of Neurogene common stock (the "Neurogene Common Stock"), shares of Neurogene preferred stock, and shares of Neurogene common stock issued in the Financing Transaction (as defined below)) will be converted into the right to receive a number of shares of common stock of the Issuer ("Common Stock") or pre-funded warrants ("Issuer Pre-Funded Warrants") entitling the holder thereof to purchase shares of Common Stock, as elected by the Neurogene stockholder and calculated in accordance with the Merger Agreement; (b) each then-outstanding pre-funded warrant to purchase shares of Neurogene Common Stock (including pre-funded warrants to purchase shares of Neurogene Common Stock issued in the Financing Transaction) ("Neurogene Pre-Funded Warrants") shall convert into an Issuer Pre-Funded Warrant, subject to adjustment as set forth in the Merger Agreement; (c) each then-outstanding option to purchase Neurogene Common Stock will be assumed by Issuer, subject to adjustment as set forth in the Merger Agreement; and (d) each then-outstanding Neurogene restricted stock unit will be assumed by Issuer, subject to adjustment as set forth in the Merger Agreement. Under the terms of the Merger Agreement, prior to the closing of the Merger, the board of directors of Issuer (the "Board") will take actions to (i) accelerate the vesting of each then-outstanding option to purchase Common Stock with an exercise price below $3.78 per share that is held by a current employee, director or consultant of Issuer as of immediately prior to the closing, or who ceases to be a current employee, director or consultant of the Issuer as of immediately prior to the closing, subject to the terms and conditions set forth in the Merger Agreement, (ii) accelerate the vesting of any unvested, time-based Issuer restricted stock units and (iii) deliver to the holders of such Issuer restricted stock units a number of shares of Common Stock equal to the number of vested and unsettled shares underlying such Issuer restricted stock units, in each case, in accordance with the terms of the Merger Agreement.

Under the exchange ratio formula in the Merger Agreement (the "Exchange Ratio"), and as more fully set forth in the Merger Agreement, upon the closing of the Merger, on a pro forma basis and based upon the number of shares of Common Stock expected to be issued in the Merger, pre-Merger Neurogene stockholders (including investors in the Financing Transaction described below) will own approximately 84% of the combined company and pre-Merger Issuer stockholders 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.

Additionally, at or prior to the effective time of the Merger (the "Effective Time"), the Issuer will enter into a Contingent Value Rights Agreement ("CVR Agreement") pursuant to which pre-Merger Common Stock holders, holders of Issuer 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 Issuer Pre-Funded Warrants will receive one contingent value right (each, a "CVR") for each outstanding share of Common Stock held by such stockholder, option holder or warrant holder on such date. Each such CVR will represent the contractual right to receive (a) certain net proceeds, if any, derived from any consideration that is paid to the Issuer as a result of the disposition of the Issuer's pre-Merger legacy assets by June 30, 2029, (b) certain net savings, if any, realized by the Issuer in connection with the reduction of the Issuer's legacy lease obligations, and (c) certain net proceeds, if any, derived from the Issuer's anticipated sales tax refund from Washington State, in each case subject to the terms and conditions set forth in the CVR Agreement.

Issuer Support Agreement

On July 17, 2023, the Adviser, on behalf of itself and the Funds in their capacity as record or beneficial owners of Common Stock, entered into a Parent Stockholder Support Agreement (the "Issuer Support Agreement") with the Issuer and Neurogene, pursuant to which the Adviser on behalf of itself and the Funds agreed, until the Expiration Date (as defined in the Issuer Support Agreement), to: (1) vote all shares of Common Stock held by the Funds in favor of the adoption and approval of the Merger Agreement and the transactions contemplated thereby and against any alternative acquisition proposal; and (2) other than with the prior written consent of the Issuer and Neurogene, not transfer any of the Common Stock or Issuer Pre-Funded Warrants, or publicly announce their intention to do so, held by the Funds, except that the Issuer Support Agreement does not prevent the transfer of Common Stock or Issuer 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 Adviser, or an entity under common control or management with the Funds, (iii) to an immediate family member of a beneficial owner of the Common Stock or Issuer Pre-Funded Warrants held by the Funds, (iv) to any trust or other similar legal entity for the direct or indirect benefit of an immediate family member of a beneficial owner of Common Stock or Issuer Pre-Funded Warrants held by the Funds, or otherwise for estate tax or estate planning purposes, (v) by pro rata distributions from the Funds to its members, partners, or shareholders pursuant to the Funds' organizational documents; provided, that in the cases of clauses (i)-(v), the applicable direct transferee (if any) of such transferred Common Stock or Issuer Pre-Funded Warrants shall have executed and delivered to the Issuer and Neurogene a support agreement substantially identical to the Issuer Support Agreement upon consummation of the transfer, and (vi) subsequent to the date that the Parent Stockholder Vote (as defined in the Merger Agreement) is obtained, transfer up to 25% of the Common Stock or Issuer Pre-Funded Warrants in any calendar year to any other person or persons, or (vii) as required by law.

In the event the Adviser fails to vote the shares of Common Stock held by the Funds as required by the Issuer Support Agreement, the Adviser shall be deemed to have granted to the Issuer and any individual designated by the Issuer an irrevocable proxy to vote the shares of Common Stock held by the Funds in accordance with the requirements of the Issuer Support Agreement.

The Issuer Support Agreement requires that the Issuer, from and after the Effective Time, indemnify, defend and hold harmless the Adviser and the Funds against any costs or expenses (including attorneys' fees and expenses), amounts paid in settlement, judgments, fines, losses, claims, damages or liabilities incurred by any of them in connection with, arising out of or otherwise related to any third-party claim arising from or in connection with the execution of the Issuer Support Agreement and the transactions contemplated thereby, including the Merger.

The foregoing description of the Issuer Support Agreement is qualified in its entirety by reference to the full text of the Issuer Support Agreement, which is filed as Exhibit 99.1 and is incorporated herein by reference.

Neurogene Support Agreement

On July 17, 2023, the Adviser on behalf of itself and Life Sciences entered into a Company Stockholder Support Agreement (the "Neurogene Support Agreement") with the Issuer and Neurogene pursuant to which the Adviser on behalf of Life Sciences agreed, until the Expiration Date (as defined in the Neurogene Support Agreement), to: (1) vote all of such Fund's shares of Neurogene capital stock in favor of the adoption and approval of the Merger Agreement and the transactions contemplated thereby and against any alternative acquisition proposal; and (2) other than with the prior written consent of the Issuer and Neurogene, refrain from transferring any such Neurogene capital stock or publicly announce their intention to transfer such shares, provided that the Neurogene Support Agreement does not prevent the transfer of Neurogene capital stock (i) by will or other testamentary document or by intestacy, (ii) to any investment fund or other entity controlled or managed by the Adviser, or an entity under common control or management with such Fund, (iii) to an immediate family member of a beneficial owner of the shares held by such Fund, (iv) to any trust or other similar legal entity for the direct or indirect benefit of an immediate family member of a beneficial owner of the shares held by such Fund, or otherwise for estate tax or estate planning purposes, (v) by pro rata distributions from the Fund to its members, partners, or shareholders pursuant to such Fund's organizational documents; provided, that in the cases of clauses (i)-(v), the applicable direct transferee (if any) of such transferred shares shall have executed and delivered to the Issuer and Neurogene a support agreement substantially identical to the Neurogene Support Agreement upon consummation of the transfer, and (vi) subsequent to the date that the Required Company Stockholder Vote (as defined in the Merger Agreement) is obtained, except to the extent such transfer is inconsistent with other agreement binding on the Advisor or the Fund, transfer up to 25% of such Neurogene capital stock in any calendar year, or (vii) to the extent required by applicable Law.

In the event the Adviser fails to vote the shares of Neurogene capital stock held by the Fund as required by the Neurogene Support Agreement, the Adviser shall be deemed to have granted to the Issuer and any individual designated by the Issuer an irrevocable proxy to vote the shares of Neurogene capital stock held by the Fund in accordance with the requirements of the Neurogene Support Agreement.

The Neurogene Support Agreement requires that Neurogene, from and after the Effective Time, indemnify, defend and hold harmless the Adviser and Life Sciences against any costs or expenses (including attorneys' fees and expenses), amounts paid in settlement, judgments, fines, losses, claims, damages or liabilities incurred by any of them in connection with, arising out of or otherwise related to any third-party claim arising from or in connection with the execution of the Neurogene Support Agreement and the transactions contemplated thereby, including the Merger.

The foregoing description of the Neurogene Support Agreement is qualified in its entirety by reference to the full text of the Neurogene Support Agreement, which is filed as Exhibit 99.2 and is incorporated herein by reference.

Lock-up Agreements

On July 17, 2023, each of the Funds entered into Lock-Up Agreements with the Issuer and Neurogene (collectively, the "Lock-Up Agreements") pursuant to which, subject to specified exceptions, the Funds agreed not to: (a) without the prior written consent of Neurogene, during the period commencing on the receipt of Required Company Stockholder Vote (as such term is defined in the Merger Agreement) and ending upon the earlier of (i) the closing of the Merger and (ii) the termination of the Merger Agreement in accordance with its terms, solely with respect to any shares of Neurogene capital stock or any securities convertible into or exercisable or exchangeable for shares of Neurogene capital stock that are currently or hereafter owned by the Funds (the "Neurogene Shares"), and (b) without the prior written consent of Issuer, during the period commencing upon the closing of the Merger and ending on the date that is 180 days after the closing of the Merger, solely with respect to any shares of Common Stock or any securities convertible into or exercisable or exchangeable for shares of Common Stock (the "Issuer Shares" and collectively with the Neurogene Shares, the "Adviser Shares"), transfer any of the Adviser Shares or enter into certain derivative transactions with respect to Adviser Shares or make any demand for, or exercise any right with respect to, the registration of any Adviser Shares other than such rights set forth in the Merger Agreement. The Lock-Up Agreements do not restrict the transfer of (i) Common Stock or Issuer Pre-Funded Warrants issued in exchange for shares of Neurogene Common Stock or Neurogene Pre-Funded Warrants purchased in connection with the Financing Transaction, (ii) existing shares of Common Stock or Issuer Pre-Funded Warrants unrelated to the Merger, (iii) shares of Neurogene capital stock purchased on the open market following receipt of the Required Company Stockholder Vote, and (iv) any shares of Common Stock purchased following the closing of the Merger, each of which is not subject to the Lock-Up Agreements.

The foregoing description of the Lock-Up Agreements is qualified in its entirety by reference to the full texts of the Lock-Up Agreement entered into by Life Sciences, which is filed as Exhibit 99.3, and the Lock-Up Agreement entered into by 667, which is filed as Exhibit 99.4, and both of which are incorporated herein by reference.

Subscription Agreement and Financing Transaction

On July 17, 2023, the Funds (together with other investors) entered into a Subscription Agreement with Neurogene (the "Subscription Agreement"), pursuant to which Neurogene agreed to issue and sell to such Funds, and the Funds agreed, subject to the terms and conditions of such agreement, to purchase immediately prior to the consummation of the Merger, Neurogene Pre-Funded Warrants for an aggregate purchase price of approximately $21.7 million. The consummation of the transactions contemplated by such agreement (the "Financing Transaction") is conditioned on the satisfaction or waiver of the conditions set forth in the Merger Agreement and customary closing conditions set forth in the subscription agreement and is expected to occur immediately prior to the closing of the Merger.

Pursuant to the Financing Transaction, 667 and Life Sciences agreed to purchase 928,873 and 11,542,398 Neurogene Pre-Funded Warrants, respectively, at the offering price of $1.739999 per Neurogene Pre-Funded Warrant, totaling 12,471,271 Neurogene Pre-Funded Warrants in the aggregate. To the extent the Financing Transaction proceeds, each of 667 and Life Sciences will purchase the Neurogene Pre-Funded Warrants that the Funds are purchasing in the Financial Transaction with their working capital. Neurogene Pre-Funded Warrants issued pursuant to the Financing Transaction will be converted into Issuer Pre-Funded Warrants in the Merger in accordance with the Exchange Ratio discussed in the Merger Agreement.

The foregoing description of the Subscription Agreement is qualified in its entirety by reference to the full text of the Subscription Agreement, which is incorporated by reference as Exhibit 99.5 and is incorporated herein by reference.

Increase to Maximum Percentage on Various Issuer Pre-Funded Warrants

On July 18, 2023, the Adviser, on behalf of the Funds, submitted revocable written notice to the Issuer to increase the Maximum Percentage from 9.99% to 19.99% on the 1,199,122 and 10,283,888 Issuer Pre-Funded Warrants held by 667 and Life Sciences, respectively.

Director Issuer Support Agreement

On July 17, 2023, M. Cantey Boyd entered, in her personal capacity, into a Parent Stockholder Support Agreement with the Issuer and Neurogene (the "Director Issuer Support Agreement") to: (1) vote all shares of Common Stock held by her in favor of the adoption and approval of the Merger Agreement and the transactions contemplated thereby and against any alternative acquisition proposal, and (2) except as otherwise permitted in the Director Issuer Support Agreement, expiring on the Expiration Date (as defined in the Director Issuer Support Agreement), not transfer any Common Stock held by her, or publicly announce her intention to do so. Ms. Boyd, an employee of the Adviser, serves on the Board of the Issuer as a representative of the Funds.

The foregoing description of the Director Issuer Support Agreement is qualified in its entirety by reference to the full text of the Director Issuer Support Agreement, the form of which is incorporated by reference as Exhibit 99.6 and is incorporated herein by reference.

Director Neurogene Support Agreement

On July 17, 2023, Stephen Biggar, M.D., entered in his personal capacity into a Company Stockholder Support Agreement with the Issuer and Neurogene (the "Director Neurogene Support Agreement") to: (1) vote any shares of Neurogene Common Stock held by him in favor of the adoption and approval of the Merger Agreement and the transactions contemplated thereby and against any alternative acquisition proposal, and (2) except as otherwise permitted in the Director Neurogene Support Agreement, expiring on the Expiration Date (as defined in the Director Neurogene Support Agreement), not transfer any of the Neurogene Common Stock held by him, or publicly announce his intention to do so. Dr. Biggar, an employee of the Adviser, serves on the Board of Directors of Neurogene as a representative of the Funds.

The foregoing description of the Director Neurogene Support Agreement is qualified in its entirety by reference to the full text of the Director Neurogene Support Agreement, the form of which is incorporated by reference as Exhibit 99.7 and is incorporated herein by reference.

Director Lock-Up Agreements

On July 17, 2023, Dr. Biggar and Ms. Boyd, in their personal capacities, entered into Lock-Up Agreements (the "Director Lock-Up Agreements") pursuant to which, subject to specified exceptions, each such signatory in their personal capacity agreed not to transfer any shares of Common Stock acquired in connection with the Merger (other than (i) existing shares of Common Stock unrelated to the Merger or the Financing Transaction, and (ii) any shares of Common Stock purchased following closing, each of which is not subject to the Director Lock-Up Agreements) for a period beginning with the closing of the Merger and continuing through 180 days following the closing of the Merger.

The foregoing description of the Director Lock-Up Agreements is qualified in its entirety by reference to the full text of the Director Lock-Up Agreements, the form of which is incorporated by reference as Exhibit 99.8 and is incorporated herein by reference.

Item 5. Interest in Securities of the Issuer.

The disclosures in Item 4 above are incorporated herein by reference.

(a) and (b) Items 7 through 11 and 13 of each of the cover pages of this Amendment No. 14 are incorporated herein by reference.

Set forth below is the aggregate number of shares of Common Stock directly held by each of the Funds, which may be deemed to be indirectly beneficially owned by the Reporting Persons, as well as shares of Common Stock that may be acquired upon exercise of the Issuer Pre-Funded Warrants by the Funds, subject to the limitations on exercise described below.

Holder	Shares of Common Stock	Pre-Funded Warrants
667, L.P.	320,049	1,199,122
Baker Brothers Life Sciences, L.P.	3,501,691	10,283,888
Total	3,821,740	11,483,010

The Issuer Pre-Funded Warrants have no expiration date and are exercisable for Common Stock on a 1-for-1 basis subject to limitations on exercise discussed below. The Issuer Pre-Funded Warrants are only exercisable to the extent that upon giving effect or immediately prior to or after giving effect to such exercise the holders thereof, together with their affiliates and any members of a Section 13(d) group with such holders would beneficially own, for purposes of Rule 13d-3 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), no more than 19.99% of the outstanding shares of Common Stock ("Maximum Percentage"). By written notice to the Issuer, the Funds may from time to time increase or decrease the Maximum Percentage applicable to that Fund to any other percentage not in excess of 19.99%. Any such increase will not be effective until the 61st day after such notice is delivered to the Issuer. As a result of this restriction, the number of shares that may be issued upon exercise of the Pre-Funded Warrants by the above holders may change depending upon changes in the amount of outstanding shares of Common Stock. On July 18, 2023, the Adviser on behalf of the Funds submitted revocable written notice to the Issuer to raise the Maximum Percentage from 9.99% to 19.99% on the 1,199,122 and 10,283,888 Issuer Pre-Funded Warrants held by 667 and Life Sciences, respectively. This increase in the Maximum Percentage will become effective on September 17, 2023.

Ms. Boyd currently serves on the Board as a representative of the Funds. Ms. Boyd holds 22,000 options to purchase Common Stock ("Stock Options") at an exercise price of $2.82 expiring October 9, 2029, 25,000 Stock Options at an exercise price of $12.84 expiring May 4, 2030, 25,000 Stock Options at an exercise price of $11.40 expiring May 10, 2031, and 25,000 Stock Options at an exercise price of $1.07 expiring May 11, 2032, each of which are vested as of the date of this filing. On June 8, 2023, the Issuer granted Ms. Boyd 25,000 Stock Options at an exercise price of $0.79 per share, which vest in twelve equal monthly installments beginning on July 8, 2023 and expiring on June 7, 2033.

The policy of the Funds and the Adviser does not permit employees of the Adviser to receive compensation for serving as directors of the Issuer. Therefore, Ms. Boyd will have no pecuniary interest in the Stock Options or Common Stock received from the exercise of Stock Options received as director's compensation. The Funds are instead entitled to the pecuniary interest in the Stock Options, Common Stock and Common Stock received from the exercise of Stock Options received as director's compensation.

The Adviser has voting and investment power over the Stock Options, Common Stock and Common Stock underlying such Stock Options and Common Stock received from the exercise of Stock Options by Ms. Boyd as director's compensation. The Adviser GP, and Felix J. Baker and Julian C. Baker as managing members of the Adviser GP, may be deemed to have the power to vote or direct the vote of and the power to dispose or direct the disposition of the Stock Options, Common Stock, Common Stock received from the exercise of Stock Options and Common Stock underlying such Stock Options held by Ms. Boyd received as director's compensation.

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 the Issuer directly held by the Funds.

Julian C. Baker and Felix J. Baker each directly hold 2,260 shares of Common Stock previously received from in-kind distributions.

(c) Except as disclosed herein or in any previous amendments to this Schedule 13D, none of the Reporting Persons or their affiliates has effected any other transactions in securities of the Issuer during the past 60 days.

(d) Certain securities of the Issuer are held directly by 667, a limited partnership the sole general partner of which is Baker Biotech Capital, L.P., a limited partnership the sole general partner of which is Baker Biotech Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the managing members of Baker Biotech Capital (GP), LLC.

Certain securities of the Issuer are held directly by Life Sciences, a limited partnership the sole general partner of which is Baker Brothers Life Sciences Capital, L.P., a limited partnership the sole general partner of which is Baker Brothers Life Sciences Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the managing members of Baker Brothers Life Sciences Capital (GP), LLC.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to the Securities of the Issuer.

Item 6 of this Schedule 13D is hereby supplemented and amended, as the case may be, as follows:

The disclosure in Item 4 is incorporated herein by reference. The Issuer Support Agreement, Neurogene Support Agreement, Lock-Up Agreement entered into by Life Sciences, Lock-Up Agreement entered into by 667, Subscription Agreement, Director Issuer Support Agreement, Director Neurogene Support Agreement, and Director Lock-Up Agreements are filed or incorporated by reference, as applicable, as Exhibit 99.1, Exhibit 99.2, Exhibit 99.3, Exhibit 99.4, Exhibit 99.5, Exhibit 99.6, Exhibit 99.7, and Exhibit 99.8, respectively, and are incorporated herein by reference.

Side Letter

On July 17, 2023, the Adviser entered into a side letter with the Issuer (the "Side Letter") pursuant to which the parties agreed to the following:

Beginning on the date of closing of the Merger and continuing until the earliest date on which the Adviser and its affiliates (each, an "Investor") no longer beneficially own, collectively, at least two-thirds of the Common Stock (including, for these purposes, Issuer Pre-Funded Warrants on an as-if-converted basis) that they own immediately upon closing of the Merger, at any time that any of these affiliates beneficially own, collectively, at least 12.5% of the then-outstanding voting Common Stock, the Issuer is obligated to support the nomination of, and cause its Board to include in the slate of nominees recommended to the Issuer's stockholders for election as directors of the Issuer, one person designated by the Investor (the "Investor Designee"), subject to customary limitations around the suitability of this Investor Designee. In the event that the Investor Designee resigns his or her seat on the Board or is removed or otherwise fails to become or ceases to be a director for any reason, the Issuer shall cause the vacancy to be filled by the election or appointment of another director nominated by the Investor as soon as reasonably practicable in compliance with applicable laws, rules and regulations.

If the Issuer receives a written request from any Investor that may be deemed an "affiliate" (as defined for this purpose in Rule 144 of the Securities Act of 1933) of the Issuer, the Issuer agrees to enter into a registration rights agreement, in substantially the form attached to the Side Letter as Exhibit B (the "Affiliate Registration Rights Agreement"). Upon execution, the Affiliate Registration Rights Agreement would require the Issuer, following a request by any signatory to the Affiliate Registration Rights Agreement, to file, as soon as reasonably practicable following such demand and in any event within sixty days of such demand, a resale registration statement on Form S-3, or other appropriate form, covering the resale of Registrable Securities (as defined in the Affiliate Registration Rights Agreement) held by such signatory (the "Resale Registration Shelf"), and to use its reasonable best efforts to keep the Resale Registration Shelf effective until the earlier of such time that (i) all Registrable Securities covered by the Resale Registration Shelf have been sold or may be sold freely without limitations or restrictions as to volume or manner of sale pursuant to Rule 144, as amended, or (ii) all Registrable Securities covered by the Resale Registration Shelf otherwise cease to be considered Registrable Securities pursuant to the terms of the Affiliate Registration Rights Agreement. Upon execution, the Affiliate Registration Rights Agreement would confer on a signatory thereto the right to one underwritten public offering per calendar year, but no more than three underwritten public offerings in total, to effect the sale or distribution of its or their Registrable Securities, subject to specified exceptions, conditions and limitations. Upon execution, the Affiliate Registration Rights Agreement would continue in effect for up to ten years following the date of execution.

The Issuer also agreed that all actions (including resolutions) it takes pursuant to Section 6.15 of the Merger Agreement that could reasonably affect the Investors or their affiliates will be subject to the prior review, comment and approval of the Investors (such approval not to be unreasonably withheld).

Continuing until the earliest date on which the Investors and any of their affiliates, collectively, no longer beneficially own at least two-thirds of the Common Stock (including Issuer Pre-Funded Warrants, on an as-if-converted basis) that they own immediately upon the closing of the Merger, the Issuer agreed that it shall not at any time, either directly or indirectly or by amendment, merger, consolidation or otherwise, authorize, approve, or adopt any "evergreen" option plan or other equity incentive plan with respect to the Issuer or any of its subsidiaries pursuant to which the number of shares of Common Stock available for issuance as equity awards thereunder would increase automatically (without further stockholder approval) on an annual basis by an amount that exceeds 4% of the sum of (x) the total number of shares of capital stock of the Issuer then issued and outstanding plus (B) the total number of shares of capital stock of the Issuer subject to Issuer Pre-Funded Warrants, without the prior written consent of the Adviser.

The foregoing description of the Side Letter is qualified in its entirety by reference to the full text of the Side Letter, which is incorporated by reference as Exhibit 99.9 and is incorporated herein by reference.

Item 7. Material to be Filed as Exhibits.

Exhibit	Description
99.1	Parent Stockholder Support Agreement, dated July 17, 2023, by and among Neurogene Inc., Neoleukin Therapeutics, Inc., and Baker Bros. Advisors LP on behalf of itself and Baker Brothers Life Sciences, L.P. and 667, L.P.
99.2	Company Stockholder Support Agreement, dated July 17, 2023, by and among Neurogene Inc., Neoleukin Therapeutics, Inc., and Baker Bros. Advisors LP on behalf of itself and Baker Brothers Life Sciences, L.P.
99.3	Lock-Up Agreement, dated July 17, 2023, by and among Neurogene Inc., Neoleukin Therapeutics, Inc., and Baker Brothers Life Sciences, L.P.
99.4	Lock-Up Agreement, dated July 17, 2023, by and among Neurogene Inc., Neoleukin Therapeutics, Inc., and 667, L.P.
99.5	Subscription Agreement, dated July 17, 2023, by and between Baker Brothers Life Sciences, L.P., 667, L.P., several other purchasers, and Neurogene Inc. (incorporated by reference to Exhibit C to Exhibit 2.1 to the Issuer's Current Report on Form 8-K, filed with the SEC on July 18, 2023).
99.6	Form of Parent Support Agreement (incorporated by reference to Exhibit 10.3 to the Issuer's Current Report on Form 8-K, filed with the SEC on July 18, 2023).
99.7	Form of Company Support Agreement (incorporated by reference to Exhibit 10.2 to the Issuer's Current Report on Form 8-K, filed with the SEC on July 18, 2023).
99.8	Form of Lock-Up Agreement (incorporated by reference to Exhibit 10.4 to the Issuer's Current Report on Form 8-K, filed with the SEC on July 18, 2023).
99.9	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 the Issuer's Current Report on Form 8-K, filed with the SEC on July 18, 2023).

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

July 19, 2023

BAKER BROS. ADVISORS LP

By: Baker Bros. Advisors (GP) LLC, its general partner

By: /s/ Scott L. Lessing
Name: Scott L. Lessing
Title: President

BAKER BROS. ADVISORS (GP) LLC

By: /s/ Scott L. Lessing
Name: Scott L. Lessing
Title: President

/s/ Julian C. Baker
Julian C. Baker

/s/ Felix J. Baker
Felix J. Baker

Exhibit 99.1

Execution Version

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 Baker Bros. Advisors LP ("Advisor"), on behalf of itself and the persons listed on Appendix A hereto in their capacity as record or beneficial owners of Shares (each, a "Stockholder" and collectively, the "Stockholders") 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, each 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 opposite such Stockholder's name on Appendix A.

WHEREAS, the Advisor has sole voting and dispositive power with respect to all of the Shares.

WHEREAS, as an inducement to the willingness of the Company to enter into the Merger Agreement, the Company has required that the Advisor 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 Parent Stockholder 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 Stockholders as of the date hereof, and (ii) all additional shares of Parent Common Stock acquired by the Stockholders, beneficially or of record, during the period commencing with the execution and delivery of this Agreement and expiring on the Closing Date; provided that the term "Shares" shall not include any shares of Parent Common Stock Transferred after the date hereof in accordance with the terms of this Agreement.

(c) "Pre-Funded Warrant" means a warrant entitling a 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; provided, however, that liens on the Stockholders' Shares or Pre-Funded Warrants in favor of a bank or broker-dealer, in each case holding custody of the Stockholders' Shares or Pre-Funded Warrants in the ordinary course of business, shall not be considered a Transfer hereunder.

2. Transfer and Voting Restrictions. The Advisor 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, other than with the prior written consent of Parent and the Company, the Advisor shall not Transfer any of the Shares or Pre-Funded Warrants of any Stockholder, or publicly announce its intention to Transfer any of such 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 Advisor will not commit any act that would restrict the Advisor's legal power, authority and right to vote all of the Shares held by the Stockholders or otherwise prevent or disable the Advisor from performing any of its obligations under this Agreement. Without limiting the generality of the foregoing, except for this Agreement and as otherwise permitted by this Agreement, the Advisor shall not enter into any voting agreement with any person or entity with respect to any of the Stockholders' 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 Advisor's legal power, authority or right to vote the Stockholders' Shares in favor of the Parent Stockholder Matters and against any competing proposals.

(c) Notwithstanding anything else herein to the contrary, the Advisor and any 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 Advisor, or an entity under common control or management with such Stockholder (in each case, directly or indirectly), (iii) to any member of such 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), 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, (vi) subsequent to the date that the Parent Stockholder Vote is obtained, Transfer up to twenty-five percent (25%) of its Shares or Pre-Funded Warrants in any calendar year to any other Person or Persons, or (vii) to the extent required by applicable Law.

3. Agreement to Vote Shares. The Advisor 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 Advisor shall cause each Stockholder to be present (in person or by proxy) and shall vote, or exercise its right to consent with respect to, all Shares held by the Stockholders (i) in favor of the Parent Stockholder Matters and (ii) against any Acquisition Proposal.

(b) 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 Advisor Capacity Only. The Advisor is entering into this Agreement solely in its capacity as the holder of voting and dispositive power over the Shares, and not in the Advisor's capacity as a director or officer of Parent and the Company. Nothing herein shall limit or affect any actions taken by any Affiliate or designee of the Advisor in his or her capacity as an officer or director of Parent and the Company, or shall prevent such Person from complying with his or her fiduciary duties or other legal obligations while acting in such capacity as a director or officer of Parent and the Company, it being understood that this Agreement applies to the Advisor solely in its capacity as the holder of voting and dispositive power over the Shares and does not apply to any such Affiliate or designee's actions, judgments, or decisions as a director or officer of Parent and the Company.

5. Irrevocable Proxy. The Advisor hereby revokes (or agrees to cause to be revoked) any proxies that the Advisor has heretofore granted with respect to the Stockholders' Shares. In the event and to the extent that the Advisor 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 Advisor 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 Advisor 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 Advisor agrees not to, and will not permit any entity under the Advisor's control to, take any action that the Parent is prohibited from taking pursuant to Section 5.4(a) of the Merger Agreement; provided, however, that nothing in this Section 6 shall prevent the Advisor from referring a person to this Section 6 or to the Merger Agreement.

7. Documentation and Information. The Advisor 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 Advisor's identity and ownership of the Shares and Pre-Funded Warrants and the nature of the Advisor's commitments and obligations under this Agreement (provided that reasonable notice of any such disclosure will be provided to the Advisor, and Parent and the Company will consider in good faith the reasonable comments of the Advisor with respect to such disclosure). Each of Parent and the Company is an intended third-party beneficiary of this Section 7.

8. No Exercise of Appraisal Rights; Waivers. The Advisor 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 Advisor 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 Advisor 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 Advisor, 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 Advisor may defend against, contest or settle any such action, claim, suit or cause of action brought against the Advisor that relates solely to the Advisor's, the Stockholders' or their Affiliate's or designee's capacity as a director, officer or securityholder of the Parent.

9. Representations and Warranties of the Advisor. The Advisor hereby represents and warrants to the Company as follows:

(a) The Advisor 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 applicable Stockholder is the beneficial or record owner of the shares of Parent Common Stock indicated opposite its name on 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 applicable 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 Advisor has full power and authority to (i) make, enter into and carry out the terms of this Agreement and (ii) vote all of the Stockholders' 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, neither the Advisor nor any Stockholder has 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 Advisor'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 Advisor and (assuming the due authorization, execution and delivery by the other parties hereto) constitutes a valid and binding agreement of the Advisor enforceable against the Advisor in accordance with its terms, subject to the Enforceability Exceptions. The execution and delivery of this Agreement by the Advisor and the performance by the Advisor 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 Advisor is a party or bound, or any applicable law to which the Advisor (or any of the Advisor'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 Advisor's ability to perform its obligations under this Agreement.

(d) The execution, delivery and performance of this Agreement by the Advisor 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 Advisor's ability to perform its obligations under this Agreement.

(e) The Advisor has had the opportunity to review the Merger Agreement and this Agreement with counsel of the Advisor's own choosing. The Advisor has had an opportunity to review with its own tax advisors the tax consequences of the Merger and the Contemplated Transactions. The Advisor 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 Advisor understands that such Advisor (and not Parent, the Company or the Surviving Corporation) shall be responsible for the Advisor's or any Stockholder's tax liability that may arise as a result of the Merger or the Contemplated Transactions. The Advisor understands and acknowledges that the Company, Parent and Merger Sub are entering into the Merger Agreement in reliance upon the Advisor's execution, delivery and performance of this Agreement.

(f) With respect to the Advisor, as of the date hereof, there is no action, suit, investigation or proceeding pending against, or, to the knowledge of the Advisor, threatened against, the Advisor or any Stockholder, or any of the Stockholders' properties or assets (including the Shares) that would reasonably be expected to prevent or materially delay or impair the ability of the Advisor to perform its obligations hereunder or to consummate the transactions contemplated hereby.

10. Certain Agreements. Except for (a) that certain registration rights agreement by and among Parent, the Stockholders and the other parties party thereto, dated September 19, 2016 and (b) that certain letter agreement dated as of even date herewith by and among the Parent and the Advisor, the Advisor, by this Agreement, and with respect to each Stockholder's Shares, severally and not jointly, hereby agrees to terminate (or agrees to cause to be terminated) subject to the occurrence of, and effective immediately prior to, the Effective Time each agreement between any 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 Advisor or the Stockholders may have that relate to any indemnification, commercial, development or employment agreements or arrangements between the Advisor or the Stockholders (or their respective Affiliates) and Parent or its subsidiary, which shall survive in accordance with their terms. The Advisor hereby terminates and waives (or agrees to cause the termination and waiver) of 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, (c) such date and time that this Agreement is terminated upon the written agreement of the Advisor, the Company and Parent, (d) upon the occurrence of a Parent Triggering Event or a Company Triggering Event, and (e) the date on which any amendment to the Merger Agreement is effected, or any waiver of Parent's rights under the Merger Agreement is granted, in each case, without the Stockholders' prior written consent, that (i) diminishes (in any amount) the Closing Distribution to be received by the holders of Parent Common Stock and the holders of certain warrants to acquire Parent Common Stock that are entitled to the Closing Distribution, (ii) changes the form of the Closing Distribution payable to the holders of Parent Common Stock and the holders of certain warrants to acquire Parent Common Stock that are entitled to the Closing Distribution, (iii) changes the Merger Consideration or the Parent Pre-Funded Warrants payable to the holders of Company Capital Stock, (iv) otherwise materially and adversely affects the Stockholders, (v) extends the End Date beyond the date six (6) months from the date of the Merger Agreement, as it may be extended for no more than sixty (60) days pursuant to the terms thereof or (vi) imposes any additional conditions or obligations that would reasonably be expected to prevent or impede the consummation of the Merger (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 seek 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 to seek 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 Advisor to the Advisor's address, electronic mail address or facsimile shown below the Advisor's signature to this Agreement.

(i) Confidentiality. Except to the extent required by applicable Law or regulation, the Advisor 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 Advisor 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 Advisor 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 including any Schedule 13D filing in which circumstance such announcing party shall make reasonable efforts to consult with the Company and Parent to the extent practicable (at the Company's and Parent's sole cost and expense, as applicable). 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."

(k) Expenses. All fees, costs and expense incurred in connection with this Agreement and the transactions contemplated hereby will be paid by the party incurring such fees, costs or expenses, provided, that Parent hereby acknowledges that the Parent has agreed to reimburse the Advisor for the fees, costs and expenses incurred by the Advisor in connection with the negotiation and execution of this Agreement and the performance of its obligations hereunder up to a maximum of $20,000.

(l) Indemnification. From and after the Effective Time, Parent will indemnify, defend and hold harmless the Advisor and the Stockholders against any costs or expenses (including attorneys' fees and expenses), amounts paid in settlement, judgments, fines, losses, claims, damages or liabilities incurred by any of them in connection with, arising out of or otherwise related to any third-party claim, whether asserted or claimed prior to, at or after the Effective Time, arising from or in connection with the execution of this Agreement and the transactions contemplated hereby, including the Merger.

(m) No Ownership Interest. Nothing contained in this Agreement shall be deemed to vest in Parent any direct or indirect ownership or incidence of ownership of or with respect to the Shares. All rights, ownership and economic benefits of and relating to the Shares shall remain vested in and below to the Stockholders, and Parent shall have no authority to direct the Advisor or the Stockholders in the voting or disposition of any Shares, expect as specifically provided herein.

(n) Non-Survival of Representations and Warranties. None of the representations and warranties in this Agreement shall survive the Effective Time.

[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.

PARENT:
NEOLEUKIN THERAPEUTICS, INC.

By: /s/ Donna M. Cochener
Name: Donna M. Cochener
Title: Interim Chief Executive Officer

[Signature Page to Parent Stockholder Support Agreement]

IN WITNESS WHEREOF, the undersigned have caused this Agreement to be duly executed as of the date first above written.

COMPANY:
Neurogene Inc.

By: /s/ Christine Mikail
Name: Christine Mikail
Title: President and Chief Financial Officer

[Signature Page to Parent Stockholder Support Agreement]

IN WITNESS WHEREOF, the undersigned have caused this Agreement to be duly executed as of the date first above written.

Baker Bros. Advisors LP:
in its capacity as the Advisor:

Signature: /s/ Scott Lessing

Address: c/o Baker Bros. Advisors LP
860 Washington Street, 3rd Floor
New York, NY 10014

[Signature Page to Parent Stockholder Support Agreement]

Appendix A

Name of Stockholder	No. Shares
Baker Brothers Life Sciences (Common Shares)	3,501,691
Baker Brothers Life Sciences, L.P. (Pre-Funded Warrants)	10,283,888
667, L.P. (Common Shares)	320,049
667, L.P. (Pre-Funded Warrants)	1,199,122
Non-Qualified Options to Purchase Common Stock for $2.82/sh., expiring 10/9/2029 (Granted to M. Cantey Boyd as Director Compensation)	22,000
Non-Qualified Options to Purchase Common Stock for $12.84/sh., expiring 5/4/2030 (Granted to M. Cantey Boyd as Director Compensation)	25,000
Non-Qualified Options to Purchase Common Stock for $11.40/sh., expiring 5/10/2031 (Granted to M. Cantey Boyd as Director Compensation)	25,000
Non-Qualified Options to Purchase Common Stock for $1.07/sh., expiring 5/11/2032 (Granted to M. Cantey Boyd as Director Compensation)	25,000
Non-Qualified Options to Purchase Common Stock for $0.79/sh., expiring 6/7/2033 (Granted to M. Cantey Boyd as Director Compensation) (not fully vested)	25,000

Exhibit 99.2

Execution Version

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 Baker Bros. Advisors LP ("Advisor"), on behalf of itself and the persons listed on Appendix A hereto in their capacity as record or beneficial owners of Shares (each, a "Stockholder" and collectively, the "Stockholders") 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, each 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 opposite such Stockholder's name on Appendix A.

WHEREAS, the Advisor has sole voting and dispositive power with respect to all of the Shares.

WHEREAS, as an inducement to the willingness of Parent to enter into the Merger Agreement, Parent has required that the Advisor 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 Stockholders as of the date hereof, and (ii) all additional shares of Company Capital Stock acquired and beneficially owned by the Stockholders during the period commencing with the execution and delivery of this Agreement and expiring on the Closing Date; provided that the term "Shares" shall not include any shares of Company Capital Stock Transferred after the date hereof in accordance with the terms of this Agreement.

(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; provided, however, that liens on a Stockholder's Shares in favor of a bank or broker-dealer, in each case holding custody of such Stockholder's Shares in the ordinary course of business, shall not be considered a Transfer hereunder.

2. Transfer and Voting Restrictions. The Advisor 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, other than with the prior written consent of Parent and the Company, the Advisor shall not Transfer any of the Shares of any Stockholder, or publicly announce its intention to Transfer any of such 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 Advisor will not commit any act that would restrict the Advisor's legal power, authority and right to vote all of the Shares held by the Stockholders or otherwise prevent or disable the Advisor from performing any of 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 Advisor shall not enter into any voting agreement with any person or entity with respect to any of the Stockholders' 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 Advisor's legal power, authority or right to execute and deliver the Company Stockholder Written Consent.

(c) Notwithstanding anything else herein to the contrary, the Advisor and any 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 Advisor, or an entity under common control or management with such Stockholder (in each case, directly or indirectly), (iii) to any member of such 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 a 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), 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, (vi) subsequent to the date that the Required Company Stockholder Vote is obtained, except to the extent such Transfer of the Shares is inconsistent with other agreement binding on the Advisor or a Stockholder, Transfer up to twenty-five percent (25%) of its Shares in any calendar year to any other Person or Persons, or (vii) to the extent required by applicable Law.

3. Agreement to Vote Shares. The Advisor 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 Advisor shall cause each Stockholder to be present (in person or by proxy) and shall vote, or exercise its right to consent with respect to, all Shares held by the Stockholders (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) 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 Advisor Capacity Only. The Advisor is entering into this Agreement solely in its capacity as the holder of voting and dispositive power over the Shares, and not in the Advisor's capacity as a director or officer of the Company and Parent. Nothing herein shall limit or affect any actions taken by any Affiliate or designee of the Advisor in his or her capacity as an officer or director of the Company and Parent, or shall prevent such Person from complying with his or her fiduciary duties or other legal obligations while acting in such capacity as a director or officer of the Company and Parent, it being understood that this Agreement applies to the Advisor solely in its capacity as the holder of voting and dispositive power over the Shares and does not apply to any such Affiliate or designee's actions, judgments, or decisions as a director or officer of the Company and Parent.

5. Irrevocable Proxy. The Advisor hereby revokes (or agrees to cause to be revoked) any proxies that the Advisor has heretofore granted with respect to the Stockholders' Shares. In the event and to the extent that the Advisor 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 Advisor 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 Advisor 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 Advisor agrees not to, and will not permit any entity under the Advisor's control to, take any action that the Company is prohibited from taking pursuant to Section 5.4(a) of the Merger Agreement provided, however, that nothing in this Section 6 shall prevent the Advisor from referring a person to this Section 6 or to the Merger Agreement.

7. Documentation and Information. The Advisor 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 Advisor's identity and ownership of the Shares and the nature of the Advisor's commitments and obligations under this Agreement (provided that reasonable notice of any such disclosure will be provided to the Advisor, and the Company and Parent will consider in good faith the reasonable comments of the Advisor with respect to such disclosure). Each of Parent and the Company is an intended third-party beneficiary of this Section 7.

8. No Exercise of Appraisal Rights; Waivers. The Advisor 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 Advisor 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 Advisor 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 Advisor, 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 Advisor may defend against, contest or settle any such action, claim, suit or cause of action brought against the Advisor that relates solely to the Advisor's, any Stockholder's or their Affiliate's or designee's capacity as a director, officer or securityholder of the Company and (y) the foregoing shall not limit or restrict in any manner the Advisor from enforcing the Advisor's rights under this Agreement and the other agreements entered into by the Advisor in connection herewith, or otherwise in connection with the Merger, including the Stockholders' right to receive the Merger Consideration pursuant to the terms of the Merger Agreement.

9. Representations and Warranties of the Advisor. The Advisor hereby represents and warrants to the Company as follows:

(a) The Advisor 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 applicable Stockholder is the beneficial owner of the shares of Company Capital Stock indicated opposite its name on 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 a Stockholder, the Company and Parent); and (ii) the applicable 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 Advisor has full power and authority to (i) make, enter into and carry out the terms of this Agreement and (ii) vote all of the Stockholders' 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, neither the Advisor nor any Stockholder has entered into any voting agreement (other than this Agreement) with any person with respect to any of the Stockholders' Shares, granted any person any proxy (revocable or irrevocable) or power of attorney with respect to any of the Stockholders' Shares, deposited any of the Stockholders' Shares in a voting trust or entered into any arrangement or agreement with any person limiting or affecting the Advisor's legal power, authority or right to vote the Stockholders' Shares on any matter.

(c) This Agreement has been duly and validly executed and delivered by the Advisor and (assuming the due authorization, execution and delivery by the other parties hereto) constitutes a valid and binding agreement of the Advisor enforceable against the Advisor in accordance with its terms, subject to the Enforceability Exceptions. The execution and delivery of this Agreement by the Advisor and the performance by the Advisor 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 Advisor is a party or bound, or any applicable law to which the Advisor (or any of the Advisor'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 Advisor's ability to perform its obligations under this Agreement.

(d) The execution, delivery and performance of this Agreement by the Advisor 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 Advisor's ability to perform its obligations under this Agreement.

(e) The Advisor has had the opportunity to review the Merger Agreement and this Agreement with counsel of the Advisor's own choosing. The Advisor has had an opportunity to review with its own tax advisors the tax consequences of the Merger and the Contemplated Transactions. The Advisor 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 Advisor understands that such Advisor (and not Parent, the Company or the Surviving Corporation) shall be responsible for the Advisor's or any Stockholder's tax liability that may arise as a result of the Merger or the Contemplated Transactions. The Advisor understands and acknowledges that the Company, Parent and Merger Sub are entering into the Merger Agreement in reliance upon the Advisor's execution, delivery and performance of this Agreement.

(f) With respect to the Advisor, as of the date hereof, there is no action, suit, investigation or proceeding pending against, or, to the knowledge of the Advisor, threatened against, the Advisor or any Stockholder, or any of the Stockholders' properties or assets (including the Shares) that would reasonably be expected to prevent or materially delay or impair the ability of the Advisor to perform its obligations hereunder or to consummate the transactions contemplated hereby.

10. Certain Agreements. The Advisor, by this Agreement, and with respect to each Stockholder's Shares, severally and not jointly, hereby agrees to terminate (or agrees to cause to be terminated), 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 any 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 Advisor may have that relate to any indemnification, commercial, development or employment agreements or arrangements between the Advisor or the Stockholders (or their respective Affiliates) and the Company or any subsidiary of the Company, which shall survive in accordance with their terms. The Advisor hereby terminates and waives (or agrees to cause the termination and waiver of) 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, (c) such date and time that this Agreement is terminated upon the written agreement of the Advisor, the Company and Parent, (d) upon the occurrence of a Parent Triggering Event or a Company Triggering Event, and (e) the date on which any amendment to the Merger Agreement is effected, or any waiver of the Company's rights under the Merger Agreement is granted, in each case, without the Stockholders' prior written consent that (i) diminishes (in any amount) the Merger Consideration or the Parent Pre-Funded Warrants payable to the holders of Company Capital Stock that are entitled to the Merger Consideration or the Parent Pre-Funded Warrants, (ii) changes the form of Merger Consideration or the Parent Pre-Funded Warrants payable to the holders of Company Capital Stock that are entitled to the Merger Consideration or the Parent Pre-Funded Warrants, (iii) changes the form of or diminishes (in any amount) the Closing Distribution payable to the holders of Parent Common Stock and the holders of certain warrants to acquire Parent Common Stock that are entitled to the Closing Distribution, (iv) otherwise materially and adversely affects the Stockholders, (v) extends the End Date beyond the date that is six (6) months from the date of the Merger Agreement, as it may be extended for no more than sixty (60) days pursuant to the terms thereof or (vi) imposes any additional conditions or obligations that would reasonably be expected to prevent or impede the consummation of the Merger (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 seek 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 to seek 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 Advisor, to the Advisor's address, electronic mail address or facsimile shown below the Advisor's signature to this Agreement.

(i) Confidentiality. Except to the extent required by applicable Law or regulation, the Advisor 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 Advisor 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 Advisor 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 including any Schedule 13D filing in which circumstance such announcing party shall make reasonable efforts to consult with the Company and Parent to the extent practicable (at the Company's and Parent's sole cost and expense, as applicable). 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."

(k) Expenses. All fees, costs and expense incurred in connection with this Agreement and the transactions contemplated hereby will be paid by the party incurring such fees, costs or expenses, provided, that Parent hereby acknowledges that the Company has agreed to reimburse the Advisor for the fees, costs and expenses incurred by the Advisor in connection with the negotiation and execution of this Agreement and the performance of its obligations hereunder up to a maximum of $20,000.

(l) Indemnification. From and after the Effective Time, the Company will indemnify, defend and hold harmless the Advisor and the Stockholders against any costs or expenses (including attorneys' fees and expenses), amounts paid in settlement, judgments, fines, losses, claims, damages or liabilities incurred by any of them in connection with, arising out of or otherwise related to any third-party claim, whether asserted or claimed prior to, at or after the Effective Time, arising from or in connection with the execution of this Agreement and the transactions contemplated hereby, including the Merger.

(m) No Ownership Interest. Nothing contained in this Agreement shall be deemed to vest in the Company any direct or indirect ownership or incidence of ownership of or with respect to the Shares. All rights, ownership and economic benefits of and relating to the Shares shall remain vested in and below to the Stockholders, and the Company shall have no authority to direct the Advisor or the Stockholders in the voting or disposition of any Shares, expect as specifically provided herein.

(n) Non-Survival of Representations and Warranties. None of the representations and warranties in this Agreement shall survive the Effective Time.

[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: /s/ Christine Mikail
Name: Christine Mikail
Title: President and Chief Financial Officer

[Signature Page to Company Support Agreement]

IN WITNESS WHEREOF, the undersigned have caused this Agreement to be duly executed as of the date first above written.

PARENT:
NEOLEUKIN THERAPEUTICS, INC.

By: /s/ Donna M. Cochener
Name: Donna M. Cochener
Title: Interim Chief Executive Officer

[Signature Page to Company Support Agreement]

IN WITNESS WHEREOF, the undersigned have caused this Agreement to be duly executed as of the date first above written.

Baker Bros. Advisors LP:
on behalf of itself and the persons listed on Appendix A hereto in their capacity as record or beneficial owners of Shares (each, a "Stockholder" and collectively, the "Stockholders") of the Company:

Signature: /s/ Scott Lessing

Address: c/o Baker Bros. Advisors LP
860 Washington Street, 3rd Floor
New York, NY 10014

[Signature Page to Company Support Agreement]

Appendix A

Name of Stockholder	No. Shares
Baker Brothers Life Sciences, L.P.	19,764,843

Exhibit 99.3

Execution Version

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") and Neurogene Inc., a Delaware corporation (the "Company"), have 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. 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 and the Company 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, (a) without the prior written consent of the Company, during the period commencing on the receipt of Required Company Stockholder Vote and ending upon the earlier of (i) Closing and (ii) the termination of the Merger Agreement in accordance with its terms, solely with respect to any shares of Company Capital Stock or any securities convertible into or exercisable or exchangeable for shares of Company Capital Stock (including without limitation, shares of Company Capital 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 the Company, which may be issued upon exercise of an option to purchase shares of Company Capital Stock, or a warrant to purchase shares of Company Capital Stock) that are currently or hereafter owned by the undersigned (the "Company Shares"), and (b) without the prior written consent of Parent, during the period commencing upon the Closing and ending on the date that is 180 days after the Closing Date, solely with respect to 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 (the "Parent Shares" and collectively with the Company Shares, the "Undersigned's Shares") (such period described in (a) and (b), as applicable, the "Restricted Period") the undersigned will not:

(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 of the Undersigned's Shares, except as set forth below;

(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 Company Capital Stock or Parent Common Stock or other securities, in cash or otherwise, as applicable;

(3) make any demand for, or exercise any right with respect to, the registration of any shares of Company Capital Stock or Parent Common Stock or any security convertible into or exercisable or exchangeable for shares of Company Capital Stock or Parent Common Stock (other than such rights set forth in the Merger Agreement), as applicable; 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 and the Company a lock-up agreement in the form of this Lock-Up Agreement with respect to the Undersigned's Shares or such other securities that have been so transferred or distributed;

(b) the exercise of an option to purchase shares of Company Capital Stock or Parent Common Stock (including a net or cashless exercise of an option to purchase shares of Company Capital Stock or Parent Common Stock), as applicable, and any related transfer of shares of Company Capital Stock to the Company or Parent Common Stock to Parent, as applicable, 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 Company Capital Stock and Parent Common Stock, as applicable, 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 of Company Capital Stock to the Company, or Parent Common Stock to Parent, as applicable, in connection with the net settlement of any other equity award that represents the right to receive in the future shares of Company Capital Stock, settled in shares of Company Capital Stock, or Parent Common Stock, settled in shares of Company Capital Stock or Parent Common Stock, as applicable, in each case, to pay any tax withholding obligations; provided that, for the avoidance of doubt, the underlying shares of Company Capital Stock or Parent Common Stock, as applicable, 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 Company Capital Stock purchased by the undersigned on the open market following receipt of the Required Company Stockholder Vote;

(g) 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;

(h) 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;

(i) pursuant to a bona-fide third party tender offer, merger, consolidation or other similar transaction made to all holders of the Company's capital stock or Parent's capital stock, as applicable, involving a change of control of the Company or Parent, as applicable, 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;

(j) transfers of the Undersigned's Shares pursuant to an order of a court or regulatory agency; or

(k) 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 applicable 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 applicable 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" with respect to Parent or the Company, as applicable 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 or the Company's voting securities, as applicable, if, after such transfer, such party's stockholders as of immediately prior to such transfer do not hold a majority of the outstanding voting securities of such party (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 the Company or Parent, as applicable. In furtherance of the foregoing, the undersigned agrees that the Company, 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. The Company and 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 Company Capital Stock or Parent Common Stock, as applicable:

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 the Company's securities or Parent's securities that are subject to a substantially similar agreement entered into by such holder, other than the undersigned, is permitted by the Company or Parent, as applicable, to sell or otherwise transfer or dispose of shares of Company Capital Stock or Parent Common Stock, as applicable, 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 Company Capital Stock or Parent Common Stock, as applicable, held by the undersigned on the date of such release or waiver as the percentage of the total number of outstanding shares of Company Capital Stock or Parent Common Stock, as applicable, 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 the Company or Parent, as applicable, 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 Company Capital Stock or Parent Common Stock, as applicable, in an aggregate amount in excess of 1% of the number of shares of Company Capital Stock or Parent Common Stock, as applicable, subject to a substantially similar agreement. In the event of any Pro-Rata Release, the Company or Parent, as applicable, shall promptly (and in any event within two (2) business days prior to such release) inform each relevant holder of Company Capital Stock or Parent Common Stock, as applicable, of the terms of such Pro-Rata Release.

Upon the release of any of the Undersigned's Shares from this Lock-Up Agreement, the Company or Parent, as applicable, will reasonably cooperate with the undersigned to facilitate the timely preparation and delivery of certificates representing the applicable 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: **BAKER BROTHERS LIFE SCIENCES, L.P.**

Signature (for individuals):

/s/ Scott Lessing

Signature (for entities):

By: BAKER BROS. ADVISORS LP,
management company and investment adviser to
Baker Brothers Life Sciences, L.P., pursuant to
authority granted to it by Baker Brothers Life Sciences Capital, L.P., general partner to Baker Brothers Life Sciences, L.P., and not as the general partner.

Name: Scott Lessing
Title: President

[Signature Page to Lock-Up Agreement]

Accepted and Agreed by:
NEOLEUKIN THERAPEUTICS, INC.

By: /s/ Donna M. Cochener
Name: Donna M. Cochener
Title: Interim Chief Executive Officer

[Signature Page to Lock-Up Agreement]

Accepted and Agreed
by Neoleukin Therapeutics, Inc.

By:
Name:
Title:

Accepted and Agreed
by Neurogene Inc.

By: /s/ Christine Mikail
Name: Christine Mikail
Title: President and Chief Financial Officer

[Signature Page to Lock-Up Agreement]

Exhibit 99.4

Execution Version

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") and Neurogene Inc., a Delaware corporation (the "Company"), have 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. 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 and the Company 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, (a) without the prior written consent of the Company, during the period commencing on the receipt of Required Company Stockholder Vote and ending upon the earlier of (i) Closing and (ii) the termination of the Merger Agreement in accordance with its terms, solely with respect to any shares of Company Capital Stock or any securities convertible into or exercisable or exchangeable for shares of Company Capital Stock (including without limitation, shares of Company Capital 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 the Company, which may be issued upon exercise of an option to purchase shares of Company Capital Stock, or a warrant to purchase shares of Company Capital Stock) that are currently or hereafter owned by the undersigned (the "Company Shares"), and (b) without the prior written consent of Parent, during the period commencing upon the Closing and ending on the date that is 180 days after the Closing Date, solely with respect to 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 (the "Parent Shares" and collectively with the Company Shares, the "Undersigned's Shares") (such period described in (a) and (b), as applicable, the "Restricted Period") the undersigned will not:

(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 of the Undersigned's Shares, except as set forth below;

(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 Company Capital Stock or Parent Common Stock or other securities, in cash or otherwise, as applicable;

(3) make any demand for, or exercise any right with respect to, the registration of any shares of Company Capital Stock or Parent Common Stock or any security convertible into or exercisable or exchangeable for shares of Company Capital Stock or Parent Common Stock (other than such rights set forth in the Merger Agreement), as applicable; 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 and the Company a lock-up agreement in the form of this Lock-Up Agreement with respect to the Undersigned's Shares or such other securities that have been so transferred or distributed;

(b) the exercise of an option to purchase shares of Company Capital Stock or Parent Common Stock (including a net or cashless exercise of an option to purchase shares of Company Capital Stock or Parent Common Stock), as applicable, and any related transfer of shares of Company Capital Stock to the Company or Parent Common Stock to Parent, as applicable, 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 Company Capital Stock and Parent Common Stock, as applicable, 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 of Company Capital Stock to the Company, or Parent Common Stock to Parent, as applicable, in connection with the net settlement of any other equity award that represents the right to receive in the future shares of Company Capital Stock, settled in shares of Company Capital Stock, or Parent Common Stock, settled in shares of Company Capital Stock or Parent Common Stock, as applicable, in each case, to pay any tax withholding obligations; provided that, for the avoidance of doubt, the underlying shares of Company Capital Stock or Parent Common Stock, as applicable, 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 Company Capital Stock purchased by the undersigned on the open market following receipt of the Required Company Stockholder Vote;

(g) 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;

(h) 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;

(i) pursuant to a bona-fide third party tender offer, merger, consolidation or other similar transaction made to all holders of the Company's capital stock or Parent's capital stock, as applicable, involving a change of control of the Company or Parent, as applicable, 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;

(j) transfers of the Undersigned's Shares pursuant to an order of a court or regulatory agency; or

(k) 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 applicable 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 applicable 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" with respect to Parent or the Company, as applicable 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 or the Company's voting securities, as applicable, if, after such transfer, such party's stockholders as of immediately prior to such transfer do not hold a majority of the outstanding voting securities of such party (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 the Company or Parent, as applicable. In furtherance of the foregoing, the undersigned agrees that the Company, 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. The Company and 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 Company Capital Stock or Parent Common Stock, as applicable:

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 the Company's securities or Parent's securities that are subject to a substantially similar agreement entered into by such holder, other than the undersigned, is permitted by the Company or Parent, as applicable, to sell or otherwise transfer or dispose of shares of Company Capital Stock or Parent Common Stock, as applicable, 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 Company Capital Stock or Parent Common Stock, as applicable, held by the undersigned on the date of such release or waiver as the percentage of the total number of outstanding shares of Company Capital Stock or Parent Common Stock, as applicable, 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 the Company or Parent, as applicable, 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 Company Capital Stock or Parent Common Stock, as applicable, in an aggregate amount in excess of 1% of the number of shares of Company Capital Stock or Parent Common Stock, as applicable, subject to a substantially similar agreement. In the event of any Pro-Rata Release, the Company or Parent, as applicable, shall promptly (and in any event within two (2) business days prior to such release) inform each relevant holder of Company Capital Stock or Parent Common Stock, as applicable, of the terms of such Pro-Rata Release.

Upon the release of any of the Undersigned's Shares from this Lock-Up Agreement, the Company or Parent, as applicable, will reasonably cooperate with the undersigned to facilitate the timely preparation and delivery of certificates representing the applicable 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: **667, L.P.**

Signature (for individuals):

/s/ Scott Lessing

Signature (for entities):

By: BAKER BROS. ADVISORS LP,
management company and investment adviser to
667, L.P., pursuant to authority granted to it by Baker Biotech Capital, L.P., general partner to 667, L.P., and not as the general partner.

Name: Scott Lessing
Title: President

[Signature Page to Lock-Up Agreement]

Accepted and Agreed by:
NEOLEUKIN THERAPEUTICS, INC.

By: /s/ Donna M. Cochener
Name: Donna M. Cochener
Title: Interim Chief Executive Officer

[Signature Page to Lock-Up Agreement]

Accepted and Agreed
by Neoleukin Therapeutics, Inc.

By:
Name:
Title:

Accepted and Agreed
by Neurogene Inc.

By: /s/ Christine Mikail
Name: Christine Mikail
Title: President and Chief Financial Officer

[Signature Page to Lock-Up Agreement]