Filed by Neoleukin Therapeutics, Inc. pursuant to Rule 425 under the Securities Act of 1933 and deemed filed pursuant to Rule 14a-12 under the Securities Exchange Act of 1934

Subject Company: Neoleukin Therapeutics, Inc. Filer's SEC File No.: 001-36327

Date: October 5, 2023

This filing relates to the proposed merger of Neurogene Inc., a Delaware corporation ("Neurogene"), with Project North Merger Sub, Inc. ("Merger Sub"), a Delaware corporation and wholly owned subsidiary of Neoleukin Therapeutics, Inc., a Delaware corporation ("Neoleukin"), pursuant to the terms of that certain Agreement and Plan of Merger and Reorganization, dated as of July 17, 2023, by and among Neoleukin, Merger Sub and Neurogene.

Dear holders of outstanding Neoleukin Therapeutics, Inc. stock options,

You hold stock options (the "**Options**") to purchase shares of common stock of Neoleukin Therapeutics, Inc. (the "**Company**") that are currently outstanding, either because you are within your post-termination exercise period or because you are currently providing services to the Company as a director, employee or a consultant. This email is to provide you with information regarding the impact of the Merger (as defined below) on your Options.

As you know, the Company has entered into a merger agreement (the "**Merger Agreement**") with Neurogene Inc. ("**Neurogene**") and Project North Merger Sub, Inc. ("**Merger Sub**"), a wholly owned subsidiary of the Company, pursuant to which, and subject to the satisfaction or waiver of various conditions set forth in the Merger Agreement, Neurogene will merge with and into Merger Sub, and become a subsidiary of the Company (the "**Merger**"). Following the completion of the Merger, the Company will change its name to "Neurogene Inc." and the combined company will trade under the symbol "NGNE." For additional information on the Merger, please see https://www.sec.gov/ix?doc=/Archives/edgar/data/1404644/000119312523245680/d522068ds4a.htm.

<u>General</u>. Upon the closing of the Merger (the "Closing"), and after giving effect to the Acceleration (if applicable, as described below), each of your Options will be exercisable for shares of common stock of the combined company, subject to the terms and conditions of your Option Award Agreement and the Company's 2014 Equity Incentive Plan.

Each of your Options remain subject to its current "post-termination exercise period," which is either in progress because you have already ceased providing services to the Company or will commence at the time you cease providing services to either the Company or the combined company. Please refer to your Option Award Agreement for the details regarding your post-termination exercise period.

Acceleration. Upon the Closing, each Option with an exercise price per share of less than \$18.90 (after the Company's recent Reverse Stock Split and before giving effect to the Merger Reverse Stock Split, as described below) that is unexpired, unexercised and unvested as of the Closing and that is held by a current employee, director or consultant of the Company who continues to provide services to the Company as of immediately prior to the Closing will be accelerated in full as of immediately prior to the Closing (the "Acceleration").

CVR Eligibility. Assuming we complete the Merger, if you exercise an Option upon or following the Closing (and within your post-termination exercise period, as applicable) each share issued upon exercise of an Option (after the Option is adjusted for the Merger Reverse Stock Split and the Reverse Stock Split, as applicable) will also be eligible to receive 1 Contingent Value Right ("CVR"). Please note that if you exercise an Option prior to Closing, you will be treated as a stockholder and will likewise be eligible to receive 1 CVR for each share you hold as of the Closing.

The CVRs represent a right to receive a pro rata portion of certain payments that may be received after the effective time of the Merger in connection with the disposition of legacy assets of the Company, liabilities related to ongoing lease obligations of the Company relating to the current Company premises in Seattle, and tax refunds that may be recovered from the state of Washington relating to sales taxes paid prior to the effective time, in each case subject to certain limitations; these amounts may be offset by costs and liabilities incurred in connection with the CVRs, and there is no assurance that any amounts will be paid under the CVRs. The timing of payments on the CVRs, if any, will be dependent on the timing of activities related to the disposition of legacy assets, assignment or sublease of the premises in Seattle and the timing of any tax refunds to be paid by the state of Washington. We cannot predict the timing of any such payments or if any payments will be made at all.

The CVRs are not transferrable (except in specific and limited circumstances) and expire on June 30, 2029, after which no further payments will be made on the CVRs even if additional amounts are received by the combined company for the items covered by the CVRs.

In addition, if you exercise your Options after a payment or payments have already been distributed on the CVRs, you will not receive those earlier payments; rather, you will only be entitled to receive future payments, if any, on the CVRs after you exercise your Options. If you exercise your Options during your term of service or post-termination exercise period and before June 30, 2029; however, you will be eligible to receive such future payments under CVRs to be issued to you on exercise of your Options (based on 1 CVR per share under the Option, after the Option is adjusted for the Merger Reverse Stock Split and the Reverse Stock Split, as applicable).

<u>Stock Splits</u>. On September 25, 2023, the Company implemented a 1-for-5 reverse stock split (the "**Reverse Stock Split**"), pursuant to which the number of shares subject to your Options was reduced (the number of shares was divided by 5, rounded down) and the exercise price of your Options was proportionately increased (the exercise price was multiplied by 5, rounded up to the nearest \$0.01). For additional information on the Reverse Stock Split, please see https://www.sec.gov/Archives/edgar/data/1404644/000162828023013445/definitiveproxywithcard.htm.

In addition, if a second reverse stock split is approved by the Company's stockholders in connection with the Merger, the Company may implement a second reverse stock split (the "Merger Reverse Stock Split"), pursuant to which the number of shares subject to your Options would be further reduced and the exercise price of your Options would be further proportionately increased. For additional information on the Merger Reverse Stock Split, please see https://www.sec.gov/ix?doc=/Archives/edgar/data/1404644/000119312523245680/d522068ds4a.htm. The impact of the Reverse Stock Split is reflected in your Shareworks account, and the impact of the Merger Reverse Stock Split, if applicable, will be reflected in your Shareworks account shortly after it is implemented.

Additional Information. This information is being provided to you so that you can be better informed about your rights as an Option holder pursuant to the Contingent Value Right Agreement ("CVR Agreement"); however, this is not intended to give you any legal or financial advice, nor does it supersede the terms of the Merger Agreement or the CVR Agreement. You are encouraged to read the CVR Agreement (a form of which is provided as an exhibit to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 18, 2023) and seek advice from your own legal and/or financial advisor before exercising or not exercising your Options. You should also read the disclosure regarding the Merger, the CVR Agreement and the CVRs, including the Risk Factors relating to those and other matters, in the Registration Statement on Form S-4 (File No. 333-274095).

If you have questions regarding what Options you hold, what your post termination period is or what the exercise price is of your Option, please consult your Shareworks account and your Option Award Agreement.

Best regards,

Donna M. Cochener Interim CEO, General Counsel Neoleukin Therapeutics, Inc.

Cautionary Note Regarding Forward-Looking Statements

This communication contains forward-looking statements (including within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended (the "Securities Act")) concerning Neurogene, the Company, the proposed transactions and other matters. These statements may discuss goals, intentions and expectations as to future plans, trends, events, results of operations or financial condition, or otherwise, based on current expectations and beliefs of the management of the Company and Neurogene, as well as assumptions made by, and information currently available to, management of the Company and Neurogene. Forward-looking statements generally include statements that are predictive in nature and depend upon or refer to future events or conditions, and include words such as "may," "will," "should," "would," "expect," "anticipate," "plan," "likely," "believe," "estimate," "project," "intend," and other similar expressions or the negative or plural of these words, or other similar expressions that are predictions or indicate future events or prospects, although not all forward-looking statements contain these words. Statements that are not historical facts are forward-looking statements. Forward-looking statements in this communication include, but are not limited to, expectations regarding the proposed merger and financing transactions; and the potential benefits and results of such transactions; the sufficiency of the combined company's capital resources; the combined company's cash runway; the expected timing of the closing of the proposed transactions; statements regarding the potential and timing of, and expectations regarding, Neurogene's programs, including NGN-101, NGN-401 and its research stage opportunities; statements by the Company's Interim Chief Executive Officer and General Counsel; and statements by Neurogene's Founder and Chief Executive Officer. Forward-looking statements are based on current beliefs and assumptions that are subject to risks and uncertainties and are not guarantees of future performance. Actual results could differ materially from those contained in any forward-looking statement as a result of various factors, including, without limitation: the limited operating history of each company; the significant net losses incurred since inception of each company; the ability to raise additional capital to finance operations; the ability to advance product candidates through preclinical and clinical development; the ability to obtain regulatory approval for, and ultimately commercialize, Neurogene's product candidates; the outcome of preclinical testing and early clinical trials for Neurogene's product candidates, including the ability of those trials to satisfy relevant governmental or regulatory requirements; Neurogene's limited experience in designing clinical trials and lack of experience in conducting clinical trials; the ability to identify and pivot to other programs, product candidates, or indications that may be more profitable or successful than Neurogene's current product candidates; expectations regarding the market and potential for Neurogene's current product candidates; the substantial competition Neurogene faces in discovering, developing, or commercializing products; the negative impacts of the COVID-19 pandemic on operations, including ongoing and planned clinical trials and ongoing and planned preclinical studies; the ability to attract, hire, and retain skilled executive officers and employees; the ability of the Company or Neurogene to protect their respective intellectual property and proprietary technologies; reliance on third parties, contract manufacturers, and contract research organizations; the risk that the conditions to the closing of the proposed transactions are not satisfied, including the failure to obtain stockholder approval for the proposed transactions from both the Company and Neurogene's stockholders or to complete the transactions in a timely manner or at all; uncertainties as to the timing of the consummation of the proposed transactions and the ability of each of the parties to consummate the proposed transactions; risks related to the Company's continued listing on the Nasdaq Capital Market until closing of the proposed transactions; risks related to the Company's and Neurogene's ability to correctly estimate their respective operating expenses and expenses associated with the proposed transactions, as well as uncertainties regarding the impact any delay in the closing would have on the anticipated cash resources of the combined company upon closing and other events and unanticipated spending and costs that could reduce the combined company's cash resources; the occurrence of any event, change or other circumstance or condition that could give rise to the termination of the merger agreement or the financing transaction; competitive responses to the proposed transactions; unexpected costs, charges or expenses resulting from the proposed transactions; the outcome of any legal proceedings that may be instituted against the Company, Neurogene or any of their respective directors or officers related to the merger, the financing transaction, or the proposed transactions contemplated thereby; potential adverse reactions of changes to business relationships resulting from the announcement or completion of the proposed transactions; the effect of the announcement or pendency of the transactions on the Company's or Neurogene's business relationships, operating results and business generally; the expected trading of the combined company's stock on Nasdaq Capital Market under the ticker symbol "NGNE" and the combined company's ability to remain listed following the proposed transactions; and legislative, regulatory, political and economic developments and general market conditions. The foregoing review of important factors that could cause actual events to differ from expectations should not be construed as exhaustive and should be read in conjunction with statements that are included herein and elsewhere, including the risk factors included in the Company's most recent Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K filed with the

SEC, the registration statement on Form S-4 filed with the SEC by the Company, as well as risk factors associated with companies, such as Neurogene, that operate in the biopharma industry. There can be no assurance that the conditions of the proposed transactions will be satisfied or that future developments affecting Neurogene, the Company or the proposed transactions will be those that have been anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond Neurogene and the Company's control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. Nothing in this communication should be regarded as a representation by any person that the forward-looking statements set forth herein will be achieved or that the contemplated results of any such forward-looking statements will be achieved. Forward-looking statements in this communication speak only as of the day they are made and are qualified in their entirety by reference to the cautionary statements herein. Except as required by applicable law, the Company and Neurogene undertake no obligation to revise or update any forward-looking statement, or to make any other forward-looking statements, whether as a result of new information, future events or otherwise.

This communication contains hyperlinks to information that is not deemed to be incorporated by reference into this communication.

No Offer or Solicitation

This communication and the information contained herein is not intended to and does not constitute (i) a solicitation of a proxy, consent or approval with respect to any securities or in respect of the proposed transactions or (ii) an offer to sell or the solicitation of an offer to subscribe for or buy or an invitation to purchase or subscribe for any securities pursuant to the proposed transactions or otherwise, nor shall there be any sale, issuance or transfer of securities in any jurisdiction in contravention of applicable law. No offer of securities shall be made except by means of a prospectus meeting the requirements of the Securities Act of 1933, as amended, or an exemption therefrom.

Subject to certain exceptions to be approved by the relevant regulators or certain facts to be ascertained, the public offer will not be made directly or indirectly, in or into any jurisdiction where to do so would constitute a violation of the laws of such jurisdiction, or by use of the mails or by any means or instrumentality (including without limitation, facsimile transmission, telephone and the internet) of interstate or foreign commerce, or any facility of a national securities exchange, of any such jurisdiction.

NEITHER THE SEC NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THE SECURITIES OR DETERMINED IF THIS COMMUNICATION IS TRUTHFUL OR COMPLETE.

Important Additional Information About the Proposed Transactions Has Been Filed with the SEC

This communication is not a substitute for the registration statement or for any other document that the Company has filed with the SEC in connection with the proposed transactions. In connection with the proposed transactions, the Company has filed a registration statement on Form S-4 that contains a proxy statement/prospectus of the Company and other documents concerning the proposed merger with the SEC. THE COMPANY URGES INVESTORS AND STOCKHOLDERS TO READ THE REGISTRATION STATEMENT, PROXY STATEMENT/PROSPECTUS AND ANY OTHER RELEVANT DOCUMENTS THAT MAY BE FILED WITH THE SEC, AS WELL AS ANY AMENDMENTS OR SUPPLEMENTS TO THESE DOCUMENTS, CAREFULLY AND IN THEIR ENTIRETY BECAUSE THEY CONTAIN IMPORTANT INFORMATION ABOUT THE COMPANY, NEUROGENE, THE PROPOSED TRANSACTIONS AND RELATED MATTERS. Investors and stockholders can obtain free copies of the proxy statement/prospectus and other documents filed by the Company with the SEC through the website maintained by the SEC at www.sec.gov. In addition, investors and stockholders should note that the Company communicates with investors and the public using its website (www.neoleukin.com), the investor relations website (https://investors.neoleukin.com/) where anyone can obtain free copies of the proxy statement/prospectus and other documents filed by the Company with the SEC and stockholders are urged to read the proxy statement/prospectus and the other relevant materials before making any voting or investment decision with respect to the proposed transactions.

Participants in the Solicitation

The Company, Neurogene and their respective directors and executive officers may be considered participants in the solicitation of proxies in connection with the proposed transaction. Information about the Company's directors and executive officers who may, under the rules of the SEC, be deemed participants in the solicitation of the stockholders of Neoleukin in connection with the proposed transaction, including a description of their direct or indirect interests, by security holdings or otherwise, is set forth in the proxy statement/prospectus included in the registration statement on Form S-4 filed by Neoleukin with the SEC on August 21, 2023.