UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934
(Amendment No.)*

NEUROGENE INC.

(Name of Issuer)

Common Stock, par value $0.000001 per share

(Title of Class of Securities)

64135M105

(CUSIP Number)

December 18, 2023

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

☐ Rule 13d-1(b)
☒ Rule 13d-1(c)
☐ Rule 13d-1(d)

*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 the disclosures provided in a prior cover page.

The information required in 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).

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

1	NAME OF REPORTING PERSONS Great Point Partners, LLC		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) ☐ (b) ☐		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 969,229	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 969,229	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 969,229		
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES ☐		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 7.56%[1]		
12	TYPE OF REPORTING PERSON IA/OO		

[1] Based on 12,823,696 shares of Common Stock outstanding as of December 18, 2023 after giving effect to the one-for-four reverse stock split that was effected on December 18, 2023 and the Merger as reported in Issuer's Form 8-K filed with the Securities and Exchange Commission ("SEC") on December 19, 2023.

1	NAME OF REPORTING PERSONS Dr. Jeffrey R. Jay, M.D.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) ☐ (b) ☐		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION USA		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH		5	SOLE VOTING POWER 0
		6	SHARED VOTING POWER 969,229
		7	SOLE DISPOSITIVE POWER 0
		8	SHARED DISPOSITIVE POWER 969,229
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 969,229		
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES ☐		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 7.56%[1]		
12	TYPE OF REPORTING PERSON IN/HC		

[1] Based on 12,823,696 shares of Common Stock outstanding as of December 18, 2023 after giving effect to the one-for-four reverse stock split that was effected on December 18, 2023 and the Merger as reported in Issuer's Form 8-K filed with the Securities and Exchange Commission ("SEC") on December 19, 2023.

1	NAME OF REPORTING PERSONS Mr. Ortav Yehudai		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) ☐ (b) ☐		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION USA		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH		5	SOLE VOTING POWER 0
		6	SHARED VOTING POWER 969,229
		7	SOLE DISPOSITIVE POWER 0
		8	SHARED DISPOSITIVE POWER 969,229
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 969,229		
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES ☐		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 7.56%[1]		
12	TYPE OF REPORTING PERSON IN/HC		

[1] Based on 12,823,696 shares of Common Stock outstanding as of December 18, 2023 after giving effect to the one-for-four reverse stock split that was effected on December 18, 2023 and the Merger as reported in Issuer's Form 8-K filed with the Securities and Exchange Commission ("SEC") on December 19, 2023.

Item 1. (a) Name of Issuer

NEUROGENE INC.

Item 1. (b) Address of Issuer's Principal Executive Offices

Neoleukin Therapeutics, Inc.
188 East Blaine Street, Suite 450
Seattle, Washington 98102

Item 2. (a) Names of Persons Filing:

Great Point Partners, LLC
Dr. Jeffrey R. Jay, M.D.
Mr. Ortav Yehudai

The Reporting Persons have entered into a Joint Filing Agreement, dated Decmber 27, 2023, a copy of which is filed with this SCHEDULE 13G as Exhibit A, pursuant to which the Reporting Persons have agreed to file this statement jointly in accordance with the provisions of Rule 13d-1(k)(1) under the Act.

Item 2. (b) Address of Principal Business Office:

The address of the principal business office of each of the Reporting Persons is

165 Mason Street, 3rd Floor
Greenwich, CT 06830

Item 2. (c) Citizenship:

Great Point Partners, LLC is a limited liability company organized under the laws of the State of Delaware. Dr. Jeffrey R. Jay, M.D. is a citizen of the United States. Mr. Ortav Yehudai is a citizen of the United States.

Item 2. (d) Title of Class of Securities

Common Stock, par value $0.000001 per share (the "common stock")

Item 2. (e) CUSIP No.:

64135M105

Item 3. If this statement is filed pursuant to §§240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

(a) ☐ Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o);

(b) ☐ Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);

(c) ☐ Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);

(d) ☐ Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);

(e) ☐ An investment adviser in accordance with §240.13d-1(b)(1)(ii)(E);

(f) ☐ An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(1)(ii)(F);

(g) ☐ A parent holding company or control person in accordance with §240.13d-1(b)(1)(ii)(G);

(h) ☐ A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);

(i) ☐ A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);

(j) ☐ A non-U.S. institution in accordance with §240.13d-1(b)(1)(ii)(J);

(k) ☐ A group, in accordance with §240.13d-1(b)(1)(ii)(K). If filing as a non-U.S. institution in accordance with §240.13d-1(b)(1)(ii)(J), please specify the type of institution:______________

Item 4. Ownership

The information required by Items 4(a) - (c) is set forth in Rows (5) - (11) of the cover pages for the Reporting Persons and is incorporated herein by reference.

The percentage set forth in Row (11) of the cover pages for the Reporting Persons are based on 12,823,696 shares of Common Stock outstanding as of December 18, 2023 after giving effect to the one-for-four reverse stock split that was effected on December 18, 2023 and the Merger as reported in Issuer's Form 8-K filed with the Securities and Exchange Commission ("SEC") on December 19, 2023.

Biomedical Value Fund, L.P. ("BVF") is the record holder of 550,522 shares of Common Stock (the "BVF Shares"). Such shares constitute 4.29% of the shares of Common Stock outstanding, computed in accordance with Rule 13d-3. Each of Dr. Jeffrey R. Jay, M.D. ("Dr. Jay"), as Senior Managing Member of Great Point, and Mr. Ortav Yehudai ("Mr. Yehudai"), as Managing Director of Great Point, has voting and investment power with respect to the BVF Shares, and therefore may be deemed to be the beneficial owner of the BVF Shares.

Biomedical Offshore Value Fund, Ltd. ("BOVF") is the record holder of 352,800 shares of Common Stock (the "BOVF Shares"). Such shares constitute 2.75% of the shares of Common Stock outstanding, computed in accordance with Rule 13d-3. Each of Dr. Jeffrey R. Jay, M.D. ("Dr. Jay"), as Senior Managing Member of Great Point, and Mr. Ortav Yehudai ("Mr. Yehudai"), as Managing Director of Great Point, has voting and investment power with respect to the BOVF Shares, and therefore may be deemed to be the beneficial owner of the BOVF Shares.

Cheyne Global Equity Fund (an Open-Ended Fund of Cheyne Select Master Fund ICAV) ("CGEF") is the record holder of 65,907 shares of Common Stock (the "CGEF Shares"). Such shares constitute 0.51% of the shares of Common Stock outstanding, computed in accordance with Rule 13d-3. Each of Dr. Jeffrey R. Jay, M.D. ("Dr. Jay"), as Senior Managing Member of Great Point, and Mr. Ortav Yehudai ("Mr. Yehudai"), as Managing Director of Great Point, has voting and investment power with respect to the CGEF Shares, and therefore may be deemed to be the beneficial owner of the CGEF Shares.

Notwithstanding the above, Great Point, Dr. Jay and Mr. Yehudai disclaim beneficial ownership of the BVF Shares, the BOVF Shares, and the CGEF Shares, except to the extent of their respective pecuniary interests.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

1. **Great Point Partners, LLC**

(a) Amount beneficially owned: 969,229

(b) Percent of class: 7.56%

(c) Number of shares as to which the person has:

(i) Sole power to vote or direct the vote: 0

(ii) Shared power to vote or direct the vote: 969,229

(iii) Sole power to dispose or to direct the disposition of: 0

(iv) Shared power to dispose or to direct the disposition of: 969,229

2. **Dr. Jeffrey R. Jay, M.D.**

(a) Amount beneficially owned: 969,229

(b) Percent of class: 7.56%

(c) Number of shares as to which the person has:

(i) Sole power to vote or direct the vote: 0

(ii) Shared power to vote or direct the vote: 969,229

(iii) Sole power to dispose or to direct the disposition of: 0

(iv) Shared power to dispose or to direct the disposition of: 969,229

3. **Mr. Ortav Yehudai**

(a) Amount beneficially owned: 969,229

(b) Percent of class: 7.56%

(c) Number of shares as to which the person has:

(i) Sole power to vote or direct the vote: 0

(ii) Shared power to vote or direct the vote: 969,229

(iii) Sole power to dispose or to direct the disposition of: 0

(iv) Shared power to dispose or to direct the disposition of: 969,229

Item 5. Ownership of Five Percent or Less of a Class

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following [ ].

Item 6. Ownership of More Than Five Percent on Behalf of Another Person

See Item 4.

Item 7. Identification and Classification of the Subsidiary which Acquired the Security Being Reported on by the Parent Holding Company or Control Person

Not Applicable.

Item 8. Identification and Classification of Members of the Group

Not Applicable.

Item 9. Notice of Dissolution of Group

Not Applicable.

Item 10. Certification

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

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.

Dated: December 27, 2023

Great Point Partners, LLC

By: /s/ Dr. Jeffrey R. Jay, M.D.
Dr. Jeffrey R. Jay, M.D., as Senior Managing Member

Dr. Jeffrey R. Jay, M.D.

By: /s/ Dr. Jeffrey R. Jay, M.D.
Dr. Jeffrey R. Jay, M.D.

Mr. Ortav Yehudai

By: /s/ Mr. Ortav Yehudai
Mr. Ortav Yehudai

Exhibit A

JOINT FILING STATEMENT

PURSUANT TO RULE 13d-1(k)

The undersigned hereby agree as follows:

(i) Each of them is individually eligible to use the SCHEDULE 13G to which this Exhibit is attached, and such SCHEDULE 13G is filed on behalf of each of them; and

(ii) Each of them is responsible for the timely filing of such SCHEDULE 13G and any amendments thereto, and for the completeness and accuracy of the information concerning such person contained therein; but none of them is responsible for the completeness or accuracy of the information concerning the other persons making the filing, unless such person knows or has reason to believe that such information is inaccurate.

Dated: December 27, 2023

Great Point Partners, LLC

By: /s/ Dr. Jeffrey R. Jay, M.D.
Dr. Jeffrey R. Jay, M.D., as Senior Managing Member

Dr. Jeffrey R. Jay, M.D.

By: /s/ Dr. Jeffrey R. Jay, M.D.
Dr. Jeffrey R. Jay, M.D.

Mr. Ortav Yehudai

By: /s/ Mr. Ortav Yehudai
Mr. Ortav Yehudai

1. Nature of operations

Neoleukin Therapeutics, Inc. (“Neoleukin” or “the Company”) has historically been a biopharmaceutical company creating next generation immunotherapies for cancer, inflammation, and autoimmunity using de novo protein design technology. Based on decisions made by the Company's Board of Directors in November 2022 and March 2023, the Company has restructured operations to significantly reduce its workforce, discontinue development of NL-201, a de novo protein that was in Phase 1 clinical trial for the treatment of cancer, and suspended all research and development activities in order to conserve capital and focus on other strategic alternatives for the Company. On July 17, 2023, Neoleukin, Project North Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of Neoleukin (“Merger Sub”), and Neurogene Inc., a privately held Delaware corporation (“Neurogene”), entered into an Agreement and Plan of Merger (the “Merger Agreement”), pursuant to which, among other matters, and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly owned subsidiary of Neoleukin and the surviving corporation of the merger (the “Merger”). The Merger is intended to qualify for federal income tax purposes as a tax-free reorganization under the provisions of Section 368(a) of the Internal Revenue Code of 1986, as amended (the "IRC"). The Merger Agreement is subject to customary closing conditions, including approval of certain matters by stockholders of each of Neoleukin and Neurogene, and is anticipated to close in the fourth quarter of 2023, assuming satisfaction or waiver of all of the conditions of the Merger. Upon closing the Merger, the Company expects to incur costs related to payments for post-employment separation benefits, retention bonuses, and to third party service providers which are not recorded in these financial statements. If the Merger is completed, Neoleukin will change its name to Neurogene Inc., and the management of Neurogene would be expected to become the management of the surviving corporation.

2. Summary of significant accounting policies

(a) Basis of presentation

The accompanying unaudited condensed financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and pursuant to the rules and regulations of the United States Securities and Exchange Commission (“SEC”) for interim financial information. Accordingly, these financial statements do not include all of the information and footnotes required by U.S. GAAP for complete financial statements and should be read in conjunction with the audited consolidated financial statements and accompanying notes included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2022, filed with the Securities and Exchange Commission on March 20, 2023. In management’s opinion, the unaudited condensed financial statements reflect all adjustments (consisting of normal recurring adjustments) necessary to present fairly the financial position of the Company as of September 30, 2023, and results of operations and cash flows for all periods presented. The interim results presented are not necessarily indicative of results that can be expected for the full year ending December 31, 2023. On September 25, 2023, as approved by the Company's stockholders on June 8, 2023, the Company effected a one-for-five reverse stock split of the authorized and outstanding common stock of the Company. As previously disclosed, the Company's stockholders approved a proposal to authorize the Company's Board of Directors to implement, at the Company's Board of Directors' discretion, a reverse stock split at a ratio not less than one-for-two and not greater than one-for-five, with the exact ratio to be set within that range at the discretion of the Company's Board of Directors. The Company's Board of Directors approved the reverse stock split at a ratio of one-for-five on August 30, 2023. No fractional shares were issued in connection with the reverse stock split. Stockholders who were otherwise entitled to receive fractional shares received a cash payment in lieu of such fractional shares. All share information in these condensed financial statements has been adjusted for this reverse stock split.

(b) Use of estimates and assumptions

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Significant areas requiring estimates include valuation and recognition of stock-based compensation, the incremental borrowing rate utilized in the measurement of operating and finance lease liabilities, amortization/depreciation and impairment of property and equipment, and pre-clinical, clinical, and other accruals. Actual results could differ from those estimates.

(c) Property and equipment, net

Property and equipment are recorded at cost and are amortized using the straight-line basis over a range of three to seven years. The Company reviews the carrying value of property and equipment for impairment whenever events and circumstances indicate that the carrying value of an asset may not be recoverable from the estimated future cash flows expected to result from its use and eventual disposition. In cases where undiscounted expected future cash flows are less than the carrying value, an impairment loss is recognized equal to an amount by which the carrying value exceeds the fair value of assets. The factors considered by management in performing this assessment include current operating results, trends and prospects, the manner in which the property is used, and the effects of obsolescence, demand, competition, and other economic factors. Based on management's assessment, as a result of the corporate restructuring announced in March 2023, including the decision to suspend all research and development activities, there were indicators of impairment of certain property and equipment. In March 2023, the Company recorded $3.4 million in impairment charges. There were no additional indicators of impairment of property and equipment as of September 30, 2023 and none as of December 31, 2022.

(d) Leases At contract inception,

The Company determines if the contract is or contains a lease. Lease liabilities are recognized on the lease commencement date based on the estimated present value of lease payments over the lease term. To determine the present value of the lease payments, the Company utilizes its estimated incremental borrowing rate based on information available at the lease commencement date as the interest rate implicit in the lease is typically not readily determinable. The related right-of-use assets are recorded net of any lease incentives received. Variable lease cost primarily includes building operating expenses as charged to the Company by its landlords. The Company includes options to extend the lease in its lease liability and right-of-use asset when it is reasonably certain that it will exercise that option. None of the Company's options to extend the rental term of any of its existing leases were considered reasonably certain as of September 30, 2023. For leases of office space and equipment, the Company has elected to not separate the lease components from the non-lease components. For leases with a lease term of 12 months or less and which do not include an option to purchase the underlying asset, the Company has elected to recognize the lease payments in the statement of operations on a straight-line basis over the lease term.

(e) Fair value of financial instruments

The carrying amounts of certain of the Company’s financial instruments, including cash and cash equivalents, restricted cash, receivables, accounts payable and other liabilities, approximate their fair values because of their nature and/or short maturities. Certain of the Company’s financial instruments are measured at fair value on a recurring basis. The Company determines the fair value of those financial instruments based upon the fair value hierarchy, which prioritizes valuation inputs based on the observable nature of those inputs. The three levels of the fair value hierarchy are as follows:

Level 1 - quoted prices (unadjusted) in active markets for identical assets or liabilities that can be accessed on the measurement date

Level 2 - quoted prices (in non-active markets or in active markets for similar assets or liabilities), observable inputs other than quoted prices and inputs that are not directly observable but are corroborated by observable market data

Level 3 - unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities

(f) Investments

The Company’s short-term investments consist entirely of investments in U.S. treasury securities. These investments are classified as available-for-sale debt securities and are therefore reported at fair value in the condensed balance sheets. Unrealized gains and losses are included in accumulated other comprehensive income (loss). There were no realized gains or losses on investments for the three and nine months ended September 30, 2023 and 2022. The Company assesses investments for impairment at each reporting period. An investment is considered impaired when the amortized cost basis exceeds the fair value. When this is the case, the Company assesses whether the impairment is credit-related or noncredit-related based on various factors. When an impairment, or a portion of an impairment, is considered credit-related, an allowance for credit losses is recorded. For the nine months ended September 30, 2023, the Company recognized no year-to-date credit losses and no allowance for credit losses is recorded as of September 30, 2023. The aggregate fair value of investments with unrealized losses as of September 30, 2023 is $22.8 million.

(g) Net loss per share

Basic net loss per share is calculated by dividing the net loss by the weighted average number of shares of common stock outstanding for the period, without consideration for common stock equivalents. Common stock equivalents are included in the calculation of diluted earnings per share only in periods of net income and are excluded in the calculation of diluted net loss per share in periods of net loss as their inclusion would be anti-dilutive. Outstanding pre-funded warrants as of September 30, 2023 and September 30, 2022 was 2,296,602 and 2,532,602, respectively. They are considered outstanding as of their issuance date and are included in basic and diluted net loss per share because they are fully vested and exercisable for nominal cash consideration.

(h) Accounting for stock-based compensation

The Company has issued stock options and restricted stock units (“RSUs”). The Company measures the cost of services received in exchange for an award of equity instruments based on the grant-date fair value of the award. The cost of such award is recognized on a straight-line basis over the requisite service period, which is generally the vesting period. The Company accounts for forfeitures as they occur. The Company utilizes newly issued shares to satisfy option exercises, the vesting of RSUs, and 2020 Employee Stock Purchase Plan ("2020 ESPP") purchases. The Company estimates the fair value of options using the Black-Scholes option pricing model on the grant date. This approximation uses assumptions regarding a number of inputs that requires management to make significant estimates and judgments. The expected term represents the period that the Company’s stock-based awards are expected to be outstanding. As the Company does not have sufficient historical experience for determining the expected term of the stock option awards granted, the Company has based its expected term for awards issued to employees on the simplified method, which represents the average period from vesting to the expiration of the stock option. In addition, the Company does not have sufficient trading history of the Company’s common stock, and therefore, the expected stock price volatility for the Company’s common stock was estimated by taking the average historical price volatility for industry peers. The Company has never declared or paid any cash dividends to common stockholders and does not presently plan to pay cash dividends in the foreseeable future. Consequently, the Company used an expected dividend yield of zero. The risk-free interest rate was based on the yields of treasury securities with maturities similar to the expected term of the options for each option group. The fair value of each RSU is measured using the closing price of the Company's common stock on the date of grant.

(i) Restructuring charges

The Company records costs and liabilities associated with exit and disposal activities in accordance with ASC 420, Exit or Disposal Cost Obligations. Restructuring charges are recorded in the period in which they are incurred. The Company evaluates and adjusts these costs as appropriate for changes in circumstances as additional information becomes available.

(j) Recently issued and recently adopted accounting standards

The Company monitors and evaluates the issuance of Accounting Standards Updates ("ASUs"). No ASUs have been issued recently which impact the Company's financial statements and disclosures.

3. Cash, cash equivalents, and restricted cash

The Company considers all highly liquid investments with an original contractual maturity or a remaining maturity of three months or less at the date of purchase to be cash equivalents. Cash equivalents consist of money market funds and U.S. treasury securities as of September 30, 2023 and December 31, 2022.

4. Leases

The Company enters into lease arrangements for its facilities as well as certain equipment, classified either as operating or finance leases. The Company has an operating lease agreement, as amended by the execution of two subsequent amendments, for approximately 33,300 square feet of office space in Seattle, Washington for the Company's principal executive offices, a laboratory for research and development, and related uses. The lease commenced on January 15, 2020 and expires on February 1, 2029, with the option to extend the lease for two five-year terms. The lease provides for a tenant improvement allowance of up to $9.5 million, which has been fully utilized. The Company has an operating lease agreement for approximately 6,272 square feet of office space in Seattle, Washington, for additional office and laboratory space for research and development and related uses (the "Eastlake Lease"). In March 2021, the Company executed an amendment to this lease pursuant to which the contractual lease term was extended through September 30, 2026 with the option to extend the lease for an additional 28-month term. In December 2022, the Company entered into an agreement to sublease this office and laboratory space in Seattle, Washington to an unrelated third party. Pursuant to the terms of the sublease, the Company is entitled to receive up to $0.5 million in base lease payments. The term of the sublease was through August 31, 2023, with an option by the sublessee to extend such term through November 30, 2023. As of September 30, 2023 the sublessee has extended the term through October 31, 2023. In September 2023, the Company initiated a term sheet for a new sublease for the Eastlake Lease expected to begin in November 2023. As a result, the Company considered the sublease terms to be an indicator of impairment and tested the recoverability of this office and laboratory space using entityspecific undiscounted cash flows. Based on these undiscounted cash flows, the Company concluded the undiscounted future cash flows expected to result from the sublease of its operating lease right-of-use asset was less than the carrying value. Therefore, the Company measured the long-lived asset impairment as the amount by which the carrying value of the asset group exceeds its fair value and recorded an impairment charge of $0.1 million which is included in general and administrative expenses in the condensed statement of operations and comprehensive income (loss). In October 2023, the Company entered into an agreement to sublease the Eastlake Lease to an unrelated third party. Pursuant to the terms of the sublease, the Company is entitled to receive approximately $1.6 million in lease payments. The term of the sublease will be from November 1, 2023 through September 30, 2026. As of September 30, 2023, and December 31, 2022, the Company’s operating lease right-of-use assets were $8.7 million and $9.7 million, respectively. As of September 30, 2023, the Company’s finance lease right-of-use assets, included within property and equipment on the condensed balance sheets, were immaterial. As of December 31, 2022, the Company’s finance lease right-of-use assets were $0.5 million.

5. Equity

(a) Common stock and pre-funded warrants

On August 30, 2023, the Company's Board of Directors approved the reverse stock split at a ratio of one-for-five of the Company's authorized and outstanding shares of common stock, which became effective on September 25, 2023. All share information in these condensed financial statements has been adjusted for this reverse stock split. The Company is authorized to issue 20,000,000 shares of common stock with a par value of $0.000001 as of September 30, 2023 and December 31, 2022. As of September 30, 2023 and December 31, 2022, the total number of shares of common stock issued and outstanding was 8,805,284 and 8,529,668, respectively. As of September 30, 2023, the Company had pre-funded warrants outstanding to purchase an aggregate of 2,296,602 shares of common stock. The prefunded warrants are exercisable at any time for an exercise price of $0.000005, except that the terms of the pre-funded warrants provide that such warrants cannot be exercised by the holders if, after giving effect thereto, the holders would beneficially own more than 9.99% of the outstanding common stock (the "Exercise Cap"), subject to certain exceptions. However, any holder may increase or decrease the Exercise Cap to any other percentage (not in excess of 19.99%) upon at least 61 days’ prior notice from the holder to the Company. On July 18, 2023, the Company received notice from the holders of all of its outstanding pre-funded warrants to increase the Exercise Cap up to 19.99%, effective 61 days from the date of such notice. The holders of the prefunded warrants will not have the right to vote on any matter except to the extent required by Delaware law. During the second quarter of 2023, 236,000 shares of common stock were issued upon the exercise of pre-funded warrants. Proceeds of the exercise to the Company were immaterial. On October 5, 2023 592,650 shares of common stock were issued upon the exercises of pre-funded warrants. Proceeds of the exercises to the Company were immaterial. On November 4, 2021, the

Company entered into an ATM or “at-the-market” Equity Offering Sales Agreement (the “Sales Agreement”) with BofA Securities, Inc., as agent (“BofA”), pursuant to which the Company may offer and sell, from time to time through BofA, shares of the Company’s common stock, having an aggregate offering price of up to $40.0 million. The offer and sale of the shares will be made pursuant to a shelf registration statement on Form S-3 and the related prospectus filed on December 11, 2020, and declared effective by the SEC on December 21, 2020, as supplemented by a prospectus supplement dated November 4, 2021. The Company has no obligation to sell any such shares under the Sales Agreement. Through September 30, 2023, no sales of common stock have been made pursuant to the Sales Agreement. As of March 20, 2023, the Company is subject to limitations on the amount of funds the Company can raise by selling shares of our common stock using our Form S-3, including sales under this ATM facility, to one-third of the aggregate market value of the shares of our common stock held by non-affiliates, or public float, due to the so-called "baby shelf" requirements set forth in the SEC general instructions of Form S-3. These restrictions will remain in place until such time as our public float exceeds $75 million.

(b) Stock-based compensation expense

Stock-based compensation expense is classified in the condensed statements of operations and comprehensive income (loss) as follows: (in thousands) Three Months Ended September 30, Nine Months Ended September 30, 2023 2022 2023 2022 Research and development expenses $ — $ 973 $ 252 $ 3,288 General and administrative expenses 172 1,058 1,442 3,501 Total stock-based compensation expense $ 172 $ 2,031 $ 1,694 $ 6,789 Total unrecognized compensation expense for all stock-based compensation plans was $1.0 million as of September 30, 2023. This expense is expected to be recognized over a weighted average remaining vesting period of 1.92 years. In accordance with the terms of the Merger Agreement, all stock options with an exercise price per share of less than $18.90 will vest immediately upon the closing of the Merger. The fair values of stock options granted are estimated using the Black-Scholes option pricing model with the following weighted average assumptions: Three Months Ended September 30, Nine Months Ended September 30, 2023 2022 2023 2022 Expected volatility — 84.18 % 86.77 % 83.80 % Expected dividends — 0 % 0 % 0 % Expected terms (years) — 6.08 5.60 6.04 Risk free rate — 2.83 % 3.67 % 2.63 % There were no stock options granted during the three months ended September 30, 2023.

(c) Stock options

A summary of the Company’s stock option activity and related information for the nine months ended September 30, 2023 is as follows: Number of Shares Weighted Average Exercise Price Weighted Average Remaining Contractual Life (in Years) Aggregate Intrinsic Value (in Thousands) Outstanding at December 31, 2022 1,702,833 $ 24.47 8.32 $ — Options granted 52,100 $ 3.52 Options exercised — $ — Options cancelled/forfeited (859,867) $ 27.06 Outstanding at September 30, 2023 895,066 $ 19.70 4.03 $ 4 Exercisable as of September 30, 2023 738,616 $ 21.90 3.04 $ — There were no exercises of options during the nine months ended September 30, 2023. During the nine months ended September 30, 2022, 7,300 shares of common stock were issued upon exercise of options with an aggregate intrinsic value of $0.1 million. The weighted-average grant date fair value of options granted during the nine months ended September 30, 2023 and September 30, 2022 was $2.54 and $4.80 per share, respectively.

(d) Restricted stock units

A summary of the Company's RSU activity and related information for the nine months ended September 30, 2023 is as follows: Number of Shares Weighted Average Grant Date Fair Value Non-vested at December 31, 2022 75,700 $ 21.09 Restricted stock units granted — $ — Restricted stock units vested (37,000) $ 21.95 Restricted stock units forfeited (32,950) $ 20.59 Non-vested at September 30, 2023 5,750 $ 18.45

(e) Employee stock purchase plan

The Company's 2020 ESPP was adopted by the Company's Board of Directors in March 2020 and approved by the Company's stockholders in May 2020. A total of 151,987 shares of common stock have been reserved for issuance under the 2020 ESPP. Subject to share and dollar limits as described in the plan, the 2020 ESPP allows eligible employees to contribute, through payroll deductions, up to 15% of their earnings for the purchase of shares of the Company's common stock at the lower of 85% of the closing price of the Company's common stock on the first trading day of the offering period or 85% of the closing price of the Company's common stock on the last trading day of the offering period. There are two six-month offering periods during each fiscal year, ending on May 15 and November 15. Under the terms of the Merger Agreement, the 2020 ESPP will be suspended and no new offering period will commence under the 2020 ESPP prior to the closing of the Merger. If any current offering period is still in effect upon the closing of the Merger, the last day of the offering period will be accelerated to a date before the closing of the Merger as determined by the Company's Board of Directors (or relevant committee thereof) in its discretion. As of September 30, 2023 and December 31, 2022, employee contributions included in accounts payable and accrued liabilities in the accompanying condensed balance sheet were immaterial.

8. Restructurings and impairment charges

November workforce reduction On November 14, 2022, the Company announced a corporate restructuring as a result of the strategic decision to discontinue further development of NL201. In conjunction with this decision, the Company's Board of Directors approved a restructuring plan that included a reduction of approximately 40% of the Company's workforce (the "November 2022 Reduction"). 14 Table of Contents In connection with the November 2022 Reduction, the Company incurred aggregate restructuring charges consisting of severance payments, benefits, and other employee related costs of $1.7 million, of which $1.4 million was recognized during the fourth quarter of 2022. The remaining $0.3 million was incurred during the nine months ended September 30, 2023, all of which is included in research and development expenses in the statement of operations and comprehensive income (loss). The Company expects to pay all remaining restructuring charges associated with the November 2022 Reduction by the end of the fourth quarter of 2023. March workforce reduction On March 6, 2023, the Company's Board of Directors approved a reduction in force of the Company's workforce by approximately 70% in connection with a re-prioritization of the Company’s focus on seeking strategic alternatives to maximize stockholder value (the "March 2023 Restructuring Plan"). In connection with the March 2023 Restructuring Plan, the Company incurred additional aggregate restructuring charges consisting of severance payments, benefits, and other employee related costs of $1.8 million, all of which was incurred during the nine months ended September 30, 2023. Of the $1.8 million of restructuring charges incurred during the nine months ended September 30, 2023, $0.6 million is included in general and administrative expenses and $1.2 million is included in research and development expenses in the condensed statement of operations and comprehensive income (loss). The Company expects to pay all remaining restructuring charges associated with the March 2023 Restructuring Plan by the end of the first quarter of 2024.

Impairment charges

As a result of the March 2023 Restructuring Plan, the Company determined that sufficient indicators existed to trigger the performance of an interim long lived asset impairment analysis as of March 31, 2023. In the first quarter of 2023, the Company tested the recoverability of its asset groups for property and equipment using entity-specific undiscounted cash flows. Based on these undiscounted cash flows, the Company concluded the undiscounted future cash flows expected to result from the eventual disposition of its long-lived assets were less than the carrying value of the asset groups. Therefore, the Company measured the long-lived asset impairment as the amount by which the carrying value of the asset group exceeds its fair value and recorded an impairment charge of $3.4 million. The fair value of the asset group reflect the Company’s best estimate of what hypothetical market participants would use to determine a transaction price for the asset group which represents a Level 3 fair value measurement. In the second quarter of 2023, the Company sold property and equipment previously assessed for impairment with a carrying value of $1.8 million, for a $0.2 million gain on sale, net. Of this total gain, $0.3 million of gain on sale is included in research and development expenses and a $0.1 million loss on sale included in general and administrative expenses in the condensed statement of operations and comprehensive income (loss).

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion of our financial condition and results of operations in conjunction with the unaudited interim condensed financial statements and notes thereto included elsewhere in this report and our audited consolidated financial statements and notes included as part of our Annual Report on Form 10-K for the year ended December 31, 2022.

Forward-Looking Statements

The following discussion of our financial condition and results of operations contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Forward-looking statements are based on our management's beliefs and assumptions and on information currently available to our management. All statements other than statements of historical facts are "forward-looking statements" for purposes of these provisions, including those relating to future events, including the timing and outcome of our exploration of potential strategic alternatives, or our future financial performance and financial guidance. In some cases, you can identify forward-looking statements by terminology such as "may," "might," "will," "should," "expect," "plan," "anticipate," "project," "believe," "estimate," "predict," "potential," "intend" or "continue," the negative of terms like these or other comparable terminology, and other words or terms of similar meaning in connection with any discussion of future operating or financial performance. These statements are only predictions. All forward-looking statements included in this quarterly report on Form 10-Q are based on information available to us on the date hereof, and we assume no obligation to update any such forward-looking statements. Any or all of our forward-looking statements in this quarterly report on Form 10-Q may turn out to be wrong. Actual events or results may differ materially. Our forward-looking statements can be affected by inaccurate assumptions we might make or by known or unknown risks, uncertainties and other factors. In evaluating these statements, you should specifically consider various factors, including the risks outlined under the caption "Risk Factors" set forth in Item 1A of Part II of this quarterly report on Form 10-Q, as well as those contained from time to time in our other filings with the SEC. We caution investors that our business and financial performance are subject to substantial risks and uncertainties.

Overview

We have historically been a biopharmaceutical company focused on creating next generation immunotherapies for cancer, inflammation, and autoimmunity using de novo protein design technology. We developed sophisticated computational methods to design proteins that demonstrate specific pharmaceutical properties that provide potentially superior therapeutic benefit over native proteins. Based on decisions made by the Company's Board of Directors in November 2022 and March 2023, the Company has restructured operations to significantly reduce its workforce, discontinue development of NL-201, a de novo protein that was in Phase 1 clinical trial for the treatment of cancer, and suspended all research and development activities in order to conserve capital and focus on other strategic alternatives for the Company. 4

Merger Agreement

On July 17, 2023, we entered into an Agreement and Plan of Merger (the "Merger Agreement") with Project North Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of Neoleukin ("Merger Sub"), and Neurogene Inc., a Delaware corporation ("Neurogene"), pursuant to which, among other matters, and subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, including the approval of certain matters by the stockholders of each of Neoleukin and Neurogene, Merger Sub will merge with and into Neurogene, with Neurogene continuing as a wholly owned subsidiary of our Company 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, shares of Neurogene preferred stock, and shares of Neurogene common stock issued in a concurrent financing transaction) will be converted into the right to receive a number of shares of our common stock or pre-funded warrants entitling the holder thereof to purchase shares of our 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 issued by Neurogene shall be converted into and become exchangeable for a pre-funded warrant entitling the holder thereof to purchase shares of our common stock, subject to adjustment as set forth in the Merger Agreement; (c) each then-outstanding option to purchase Neurogene common stock will be assumed by us, subject to adjustment as set forth in the Merger Agreement; and (d) each then-outstanding Neurogene restricted stock unit will be assumed by us, subject to adjustment as set forth in the Merger Agreement. Under the terms of the Merger Agreement, prior to the closing of the Merger, our Board of Directors (the “Board”) will take actions to (i) accelerate the vesting of each then-outstanding option to purchase our common stock with an exercise price below $18.90 per share, after giving effect to the one-for-five reverse stock split effected September 25, 2023, that is held by a current employee, director or consultant of us as of immediately prior to the closing of the Merger, or who ceases to be a current employee, director or consultant of us as of immediately prior to the closing of the Merger, subject to the terms and conditions set forth in the Merger Agreement, (ii) accelerate the vesting of any of our unvested, time-based restricted stock units and (iii) deliver to the holders of such restricted stock units a number of shares of our common stock equal to the number of vested and unsettled shares underlying such restricted stock units, in each case, in accordance with the terms of the Merger Agreement. Under the terms of the Merger Agreement, upon the closing of the Merger, on a pro forma basis and based upon the number of shares of our common stock expected to be issued in the Merger, pre-Merger Neurogene stockholders will own approximately 84% of the combined company and our pre-Merger 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, subject to change based on our net cash at closing of the Merger. Concurrently with the execution of the Merger Agreement, we entered into support agreements with certain of our stockholders (the "Supporting Stockholders"). As of the date of this filing, Supporting Stockholders own an aggregate of approximately 31% of our common stock, pursuant to which such Supporting Stockholders have agreed, among other things, to cast votes for all shares held or controlled by such Supporting Stockholders in favor of certain matters related to the Merger and against any alternative acquisition proposals. Additionally, in connection with the execution of the Merger Agreement, we entered into a letter agreement with Baker Bros. Advisors LP ("BBA"), pursuant to which the parties agreed to provide BBA with certain rights to (i) nominate one person for election as a director of the Company, provided that BBA owns at least 12.5% of our then-outstanding voting common stock and (ii) enter into a Registration Rights Agreement with any BBA entity who may be deemed an "affiliate" of the Company (collectively, the "Baker Entities").

Reverse Stock Split

On September 25, 2023, as approved by the Company's stockholders on June 8, 2023, the Company effected a one-for-five reverse stock split of the authorized and outstanding common stock of the Company. As previously disclosed, the Company’s stockholders approved a proposal to authorize the Company’s Board of Directors to implement, at the Company’s Board of Directors’ discretion, a reverse stock split at a ratio not less than one-for-two and not greater than one-for-five, with the exact ratio to be set within that range at the discretion of the Company’s Board of Directors. The Company’s Board of Directors approved the reverse stock split at a ratio of one-for-five on August 30, 2023. No fractional shares were issued in connection with the reverse stock split. Stockholders who were otherwise entitled to receive fractional shares received a cash payment in lieu of such fractional shares.

Corporate Restructurings

In November 2022, we announced a corporate restructuring as a result of the strategic decision to discontinue development of NL-201 and turn our focus to the next generation of de novo cytokine mimetics that further widen the therapeutic window. In March 2023, we announced a further corporate restructuring to significantly reduce our workforce and suspend our research and development activities in order to conserve capital and focus on other strategic alternatives for the Company. As a result of the restructuring plan approved by our Board, on November 12, 2022 in connection with our decision to discontinue development of NL-201, we reduced our workforce by approximately 40%. In connection with the decision to focus on strategic alternatives, the Board adopted a second restructuring plan on March 6, 2023, further reducing our workforce by approximately 70% of our remaining employees. These restructurings were completed by the end of the second quarter of 2023.

Finances

Assuming the completion of the Merger, we will need to raise substantial additional capital to support the continuing operations and pursue the growth strategy of the combined company. Until such time as we can generate significant revenue from product sales, if ever, we plan to finance our operations through the sale of equity, debt financings, or other capital sources, which may include collaborations with other companies or other strategic transactions. There are no assurances that we will be successful in obtaining an adequate level of financing as and when needed to finance our operations on terms acceptable to us or at all. Any failure to raise capital as and when needed could have a negative impact on our financial condition and on our ability to pursue our business plans and strategies. If we are unable to secure adequate additional funding, we may have to significantly delay, scale back, or discontinue the development and commercialization of one or more product candidates, reduce our early stage research projects, reduce the size of our team, or delay our pursuit of potential in-licenses or acquisitions. If we are not able to complete the Merger, we would expect our Board of Directors to consider exploring other strategic alternatives, which may include a sale, merger, divestiture of assets, licensing or winding down and dissolution. Based on our current business plans, even if we are not able to complete the Merger, we believe that our existing cash, cash equivalents, and short-term investments will be sufficient to fund our planned operations through at least 12 months following the filing date of this Form 10-Q.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred under arrangements with third parties, such as contract research organizations, or CROs, manufacturing organizations, and consultants, personnel-related costs (including stock-based compensation, severance expenses and travel expenses), facility-related costs, and laboratory-related costs. For the three months ended September 30, 2023, research and development expenses were $0.6 million, compared to $9.5 million for the three months ended September 30, 2022. The decrease in research and development expenses during the three months ended September 30, 2023 is primarily due to lower personnel costs, NL-201 clinical costs, preclinical costs, lab supplies expenses, and consulting fees as a result of the decision to discontinue development of NL-201 in November 2022 and the decision to suspend research and development activities and focus on strategic alternatives in March 2023. For the nine months ended September 30, 2023, research and development expenses were $7.9 million, compared to $31.1 million for the nine months ended September 30, 2022. The decrease in research and development expenses during the nine months ended September 30, 2023 is primarily due to lower personnel costs, NL-201 clinical costs, preclinical costs, lab supplies expenses, and consulting fees as a result of the decision to discontinue development of NL-201 in November 2022 and the decision to suspend research and development activities and focus on strategic alternatives in March 2023. Additionally, the decrease is due in part to all facility expense being captured in general and administrative expenses beginning in the second quarter of 2023 after the decision to suspend research and development activities in March 2023.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel-related costs (including stock-based compensation, severance expenses, and travel expenses), facility-related costs, insurance, and professional fees for consulting, legal, and accounting services. For the three months ended September 30, 2023, general and administrative expenses were $5.0 million, compared to $4.1 million for the three months ended September 30, 2022. The increase in general and administrative expenses during the three months ended September 30, 2023 was primarily due to increases in legal expenses and professional services fees associated with the proposed Merger, as well as an impairment charge on our Eastlake Lease operating lease right-of-use asset, triggered by a new sublease expected to begin in November 2023. The increase was partially offset by a decrease in personnel-related costs. For the nine months ended September 30, 2023, general and administrative expenses were $12.5 million, compared to $13.7 million for the nine months ended September 30, 2022. The decrease in general and administrative expenses during the nine months ended September 30, 2023 was primarily due to decreases in personnel-related costs, consulting fees, and other general and administrative costs as a result of the decision to discontinue development of NL-201 in November 2022 and the decision to suspend research and development activities and focus on strategic alternatives in March 2023. The decrease was partially offset by increases in legal expenses and professional services fees associated with the proposed Merger, as well as by increases in facility lease expenses due to all such expense being captured in general and administrative expenses beginning in the second quarter of 2023 after the decision to suspend research and development activities in March 2023.

Impairment on Property and Equipment

In connection with the March 2023 Restructuring Plan, we determined that sufficient indicators existed to trigger the performance of an interim long-lived asset impairment analysis as of March 31, 2023. We recorded an impairment charge on our property and equipment of $3.4 million for the nine months ended September 30, 2023. No impairment charges were recorded during the three and nine months ended September 30, 2022.

Workforce Reductions

On November 14, 2022, we announced a corporate restructuring as a result of the strategic decision to discontinue further development of NL-201. In conjunction with this decision, our Board of Directors approved a restructuring plan that included a reduction of approximately 40% of our workforce (the "November 2022 Reduction"). In connection with the November 2022 Reduction, we incurred aggregate restructuring charges consisting of severance payments, benefits, and other employee related costs of $1.7 million, of which $1.4 million was recognized during the fourth quarter of 2022. The remaining $0.3 million was incurred during the nine months ended September 30, 2023, all of which is included in research and development expenses in the statement of operations and comprehensive income (loss). We expect to pay all remaining restructuring charges associated with the November 2022 Reduction by the end of the fourth quarter of 2023. On March 6, 2023, our Board of Directors approved a reduction in force of our workforce by approximately 70% and a re-prioritization of our focus to seek strategic alternatives to maximize stockholder value (the "March 2023 Restructuring Plan").

In connection with the March 2023 Restructuring Plan, we incurred additional aggregate restructuring charges consisting of severance payments, benefits, and other employee related costs of $1.8 million, all of which was incurred during the nine months ended September 30, 2023. Of the $1.8 million of restructuring charges incurred during the nine months ended September 30, 2023, $0.6 million is included in general and administrative expenses and $1.2 million is included in research and development expenses in the condensed statement of operations and comprehensive income (loss). We expect to pay all remaining restructuring charges associated with the March 2023 Restructuring Plan by the end of the first quarter of 2024.

Interest Income

Interest income during the three months ended September 30, 2023 was $1.0 million as compared to $0.6 million during the three months ended September 30, 2022. Interest income during the nine months ended September 30, 2023 was $3.0 million as compared to $0.8 million during the nine months ended September 30, 2022. The increase during the three and nine months ended September 30, 2023 is due to broad increases in the interest rate environment resulting in higher interest earned on our money market fund and U.S. treasury security investments.

Liquidity and Capital Resources

Since our inception, we have incurred net losses and negative cash flows from our operations. Our operating activities used $21.4 million and $34.7 million of cash flows during the nine months ended September 30, 2023 and 2022, respectively. As of September 30, 2023, we had an accumulated deficit of $471.9 million, working capital of $74.7 million, and cash, cash equivalents, and short-term investments of $78.5 million. On November 4, 2021, we entered into an ATM "at-the-market" Equity Offering Sales Agreement, or the Sales Agreement, with BofA Securities, Inc., or BofA, pursuant to which we may, but are not obligated to, offer and sell, from time to time, shares of our common stock with an aggregate offering price up to $40.0 million through BofA, as sales agent. No sales of our common stock have been made pursuant to this Sales Agreement to date. As of March 20, 2023, we are subject to limitations on the amount of funds we can raise by selling shares of our common stock using our Form S-3, including sales under this ATM facility, to one-third of the aggregate market value of the shares of our common stock held by non-affiliates, or public float, due to the so-called "baby shelf" requirements set forth in the SEC general instructions of Form S-3. These restrictions will remain in place until such time as our public float exceeds $75 million.

Net cash used in operating activities Net cash used in operating activities for the nine months ended September 30, 2023 and September 30, 2022 consisted of net loss for the period adjusted for non-cash items and changes in components of operating assets and liabilities. For the nine months ended September 30, 2023, a net loss of $20.8 million was adjusted for non-cash items including impairment on property and equipment of $3.4 million, stock-based compensation expense of $1.7 million, accretion of premiums on available-for-sale securities (net of amortization of discounts) of $1.9 million and a net decrease of $5.2 million due to changes in operating assets and liabilities. For the nine months ended September 30, 2022, a net loss of $44.1 million was adjusted for non-cash items including stock-based compensation expense of $6.8 million, depreciation and amortization expense of $1.2 million and a net decrease of $0.7 million due to changes in operating assets and liabilities. Net cash used in investing activities For the nine months ended September 30, 2023, cash provided by investing activities consisted primarily of proceeds from the maturities of our availablefor-sale securities of $99.0 million and from the sale of property and equipment of $2.1 million, partially offset by purchases of available-for-sale securities of $91.9 million. For the nine months ended September 30, 2022, cash used in investing activities consisted primarily of purchases of available-for-sale securities of $81.6 million and laboratory equipment of $1.0 million, partially offset by proceeds from the maturities of our available-for-sale securities of $15.0 million. Net cash provided by financing activities For the nine months ended September 30, 2023 net cash used in financing activities consisted of payments on our finance lease obligations. For the nine months ended September 30, 2022, net cash provided by financing activities consisted primarily of proceeds from stock option exercises and purchases of common stock under our 2020 Employee Stock Purchase Plan.

Operating and Capital Expenditure Requirements

We have not generated product revenue or achieved profitability since our inception and we expect to continue to incur net losses for the foreseeable future. As of September 30, 2023, we had approximately $78.5 million in cash, cash equivalents, and short-term investments. Based on our current business plans, we believe that our existing cash, cash equivalents, and short-term investments will be sufficient to fund our operating requirements through at least 12 months following the filing date of this Form 10-Q. However, our future capital requirements and the period for which we expect our existing resources to support our operations, fund expansion, develop new or enhanced products, or otherwise respond to competitive pressures, may vary significantly from our expectation and we may need to seek additional funds sooner than planned. Unless and until we generate sufficient revenue to be profitable, we will seek to fund our operations through public or private equity or debt financings or other sources. If we raise additional funds through the issuance of convertible debt securities, these securities could have rights senior to those of our common stock and could contain covenants that restrict our operations. There can be no assurance that we will be able to obtain additional equity or debt financing on terms acceptable to us, if at all. Our failure to obtain sufficient funds on acceptable terms when needed could have a negative impact on our business, results of operations, financial condition, cash flows, and future prospects. Our future capital requirements will depend on many factors, including:

- our ability to complete the Merger;
- the number and characteristics of any future product candidates we develop or may acquire;
- the scope, progress, results, and costs of researching and developing our product candidates or any future product candidates, and conducting preclinical studies and clinical trials;
- the timing of, and the costs involved in, obtaining regulatory approvals for any future product candidates;
- the cost of manufacturing our future product candidates and any products that may achieve regulatory approval;

- the cost of commercialization activities if any product candidates or future product candidates are approved for sale, including marketing, sales and distribution costs;
- the timing, receipt and amount of sales of, or royalties on, future approved products, if any;
- our ability to establish and maintain strategic collaborations, licensing or other arrangements and the financial terms of such agreements;
- any product liability or other lawsuits related to our products;
- the expenses needed to attract and retain skilled personnel; and
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims, including litigation costs and the outcome of such litigation.

Critical Accounting Policies and Significant Judgments and Estimates

The preparation of these financial statements in accordance with U.S. GAAP requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue, and expenses and the disclosure of contingent assets and liabilities in our financial statements. We evaluate our estimates and judgments on an ongoing basis. We base our estimates on historical experience, known trends and events, and various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. A summary of our significant accounting policies is presented in Part II, Item 8 of our Annual Report on Form 10-K for the year ended December 31, 2022. There have been no material changes to our significant accounting policies during the three and nine months ended September 30, 2023.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

As a "smaller reporting company," as defined by Rule 12b-2 of the Exchange Act, and pursuant to Item 305 of Regulation S-K, we are not required to provide quantitative and qualitative disclosures about market risk.

Item 4. Controls and Procedures

Evaluation of disclosure controls and procedures. Under the supervision and with the participation of our principal executive and our principal financial officer, our management conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, as of the end of the period covered by this report. In designing and evaluating our disclosure controls and procedures, management recognizes that any disclosure controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Based on management's evaluation, our principal executive and our principal financial officer concluded that our disclosure controls and procedures are designed to, and are effective to, provide assurance at a reasonable level that the information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our principal executive and our principal financial officer, as appropriate, to allow timely decisions regarding required disclosures. Changes in internal control over financial reporting. There have not been any changes in our internal control over financial reporting during the quarter ended September 30, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.