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

SCHEDULE 13G

Under the Securities Exchange Act of 1934
(Amendment No. 3)

NEUROGENE INC. (f/k/a NEOLEUKIN THERAPEUTICS, INC.)

(Name of Issuer)

Common Stock, \$0.000001 par value

(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).

1	NAME OF REPORTING PERSON Redmile Group, LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (A) <input type="checkbox"/> (B) <input type="checkbox"/>	
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 1,282,661 (1)
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 1,282,661 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,282,661 (1)	
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 9.9% (2)	
12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IA, OO	

(1) After giving effect to (i) the reverse merger that closed on December 18, 2023 by the Issuer (formerly Neoleukin Therapeutics, Inc.) and the pre-merger Neurogene Inc., which became a wholly owned subsidiary of the Issuer (the "Merger"), and (ii) each of the 1-for-5 reverse stock split with respect to the Issuer's Common Stock that was effected on September 25, 2023 and the 1-for-4 reverse stock split with respect to the Issuer's Common Stock that was effected on December 18, 2023 immediately prior to the closing of the Merger (collectively, the "Reverse Stock Splits"), Redmile Group, LLC's beneficial ownership of the Issuer's common stock ("Common Stock") is comprised of 1,266,905 shares of Common Stock owned by certain private investment vehicles and/or sub-advised accounts managed by Redmile Group, LLC ("Redmile"), including Redmile Biopharma Investments I, L.P. Subject to the Beneficial Ownership Blocker (as defined below), Redmile may also be deemed to beneficially own 103,407 shares of Common Stock issuable upon exercise of certain warrants to purchase Common Stock (the "Warrants"). Pursuant to the terms of the Warrants, the Common Stock that may be acquired upon exercise of the Warrants shall be limited to the extent that, following such exercise, the total number of shares of Common Stock then beneficially owned by the holder of the Warrants, together with such holder's affiliates and any other person whose beneficial ownership of Common Stock would be aggregated with such holder's for the purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), would exceed the Beneficial Ownership Limitation (the "Beneficial Ownership Blocker"). The "Beneficial Ownership Limitation" is 9.99% of the shares of Common Stock then issued and outstanding, which percentage may be changed at a holder's election upon 61 days' notice to the Issuer. The Common Stock and the Warrants may be deemed beneficially owned by Redmile as investment manager of such private investment vehicles and/or sub-advised accounts. The reported securities may also be deemed beneficially owned by Jeremy C. Green as the principal of Redmile. Redmile and Mr. Green (collectively, the "Reporting Persons") each disclaim beneficial ownership of these shares, except to the extent of its or his pecuniary interest in such shares, if any.

(2) Percentage based on: (i) 12,823,696 shares of Common Stock outstanding as of December 18, 2023, as reported by the Issuer in its Form 8-K filed with SEC on December 18, 2023 (the "Form 8-K") plus (ii) 15,756 shares of Common Stock issuable upon exercise of certain of the Warrants, which due to the Beneficial Ownership Limitation is the maximum number of shares that could be issued upon exercise of the Warrants.

1	NAME OF REPORTING PERSON Jeremy C. Green	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (A) <input type="checkbox"/> (B) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION United Kingdom	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0
	6	SHARED VOTING POWER 1,282,661 ⁽³⁾
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 1,282,661 ⁽³⁾
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,282,661 ⁽³⁾	
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 9.9% ⁽⁴⁾	
12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN, HC	

⁽³⁾ After giving effect to the Merger and the Reverse Stock Splits, Jeremy C. Green's beneficial ownership of Common Stock is comprised of 1,266,905 shares of Common Stock owned by certain private investment vehicles and/or sub-advised accounts managed by Redmile, including Redmile Biopharma Investments I, L.P. Subject to the Beneficial Ownership Blocker, Mr. Green may also be deemed to beneficially own 103,407 shares of Common Stock issuable upon exercise of the Warrants. Pursuant to the terms of the Warrants, the Common Stock that may be acquired upon exercise of the Warrants shall be limited to the extent that the Beneficial Ownership Blocker applies. The Common Stock and the Warrants together may be deemed beneficially owned by Redmile as investment manager of such private investment vehicles and/or sub-advised accounts. The reported securities may also be deemed beneficially owned by Jeremy C. Green as the principal of Redmile. The Reporting Persons each disclaim beneficial ownership of these shares, except to the extent of its or his pecuniary interest in such shares, if any.

⁽⁴⁾ Percentage based on (i) 12,823,696 shares of Common Stock outstanding as of December 18, 2023, as reported by the Issuer in its Form 8-K, plus (ii) 15,756 shares of Common Stock issuable upon exercise of certain of the Warrants, which due to the Beneficial Ownership Limitation is the maximum number of shares that could be issued upon exercise of the Warrants.

1	NAME OF REPORTING PERSON Redmile Biopharma Investments I, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (A) <input type="checkbox"/> (B) <input type="checkbox"/>	
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 652,030
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 652,030
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 652,030	
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 5.1% ⁽⁵⁾	
12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	

⁽⁵⁾ Percentage based on 12,823,696 shares of Common Stock outstanding as of December 18, 2023, as reported by the Issuer in its Form 8-K.

The Reporting Persons initially reported their beneficial ownership of the Issuer's Common Stock on Schedule 13G on February 16, 2021, and subsequently amended as required. On July 27, 2023, the Reporting Persons filed a Schedule 13D with respect to their beneficial ownership of Common Stock in accordance with Rule 13d-1(e) of the Act following the execution by Redmile of an agreement with the Issuer to vote all of the shares of Common Stock held by the private investment vehicles and sub-advised accounts managed by Redmile in favor of the Merger. The closing of the Merger occurred on December 18, 2023, at which time the Reporting Persons again became eligible to report their beneficial ownership of Common Stock on Schedule 13G pursuant to Rule 13d-1(h) of the Act.

Item 1.

- (a) Name of Issuer

Neurogene Inc.

- (b) Address of Issuer's Principal Executive Offices

535 W 24th Street, 5th Floor
New York, New York 10011

Item 2.

- (a) Names of Persons Filing

Redmile Group, LLC
Jeremy C. Green
Redmile Biopharma Investments I, L.P.

- (b) Address of Principal Business office or, if None, Residence

Redmile Group, LLC
One Letterman Drive
Building D, Suite D3-300
The Presidio of San Francisco
San Francisco, California 94129

Jeremy C. Green
c/o Redmile Group, LLC (NY Office)
45 W. 27th Street, Floor 11
New York, NY 10001

Redmile Biopharma Investments I, L.P.
c/o Redmile Group, LLC
One Letterman Drive
Building D, Suite D3-300
The Presidio of San Francisco
San Francisco, California 94129

- (c) Citizenship

Redmile Group, LLC: Delaware
Jeremy C. Green: United Kingdom
Redmile Biopharma Investments I, L.P.: Delaware

- (d) Title of Class of Securities

Common Stock, \$0.000001 par value

(e) CUSIP Number

64135M105 *

* On September 25, 2023 the Common Stock of the Issuer commenced trading under the CUSIP number 64049K203 and the Issuer effected a 1-for-5 reverse split with respect to its Common Stock. On December 18, 2023, following the Merger and a 1-for-4 reverse stock split with respect to the Issuer's Common Stock, the Common Stock commenced trading under the name Neurogene Inc. (Nasdaq: NGNE) with a CUSIP number of 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) 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.

(a) Amount beneficially owned:

Redmile Group, LLC – 1,282,661 *
Jeremy C. Green – 1,282,661 *
Redmile Biopharma Investments I, L.P. – 652,030

(b) Percent of class:

Redmile Group, LLC – 9.9%**
Jeremy C. Green – 9.9%**
Redmile Biopharma Investments I, L.P. – 5.1%***

- (c) Number of shares as to which Redmile Group, LLC has:
- (i) Sole power to vote or to direct the vote:
0
 - (ii) Shared power to vote or to direct the vote:
1,282,661 *
 - (iii) Sole power to dispose or to direct the disposition of:
0
 - (iv) Shared power to dispose or to direct the disposition of:
1,282,661 *

Number of shares as to which Jeremy C. Green has:

- (i) Sole power to vote or to direct the vote:
0
- (ii) Shared power to vote or to direct the vote:
1,282,661 *
- (iii) Sole power to dispose or to direct the disposition of:
0
- (iv) Shared power to dispose or to direct the disposition of:
1,282,661 *

Number of shares as to which Redmile Biopharma Investments I, L.P. has:

- (i) Sole power to vote or to direct the vote:
0
- (ii) Shared power to vote or to direct the vote:
652,030
- (iii) Sole power to dispose or to direct the disposition of:
0
- (iv) Shared power to dispose or to direct the disposition of:
652,030

* After giving effect to the Merger and the Reverse Stock Splits, Redmile's and Jeremy C. Green's beneficial ownership of the Issuer's Common Stock is comprised of 1,266,905 shares of Common Stock owned by certain private investment vehicles and/or sub-advised accounts managed by Redmile, including Redmile Biopharma Investments I, L.P. Subject to the Beneficial Ownership Blocker, Redmile and Mr. Green may also be deemed to beneficially own 103,407 shares of Common Stock issuable upon exercise of the Warrants. Pursuant to the terms of the Warrants, the Common Stock that may be acquired upon exercise of the Warrants shall be limited to the extent that the holder of the Warrants, together with such holder's affiliates and any other person whose beneficial ownership of Common Stock would be aggregated with such holder's for the purposes of Section 13(d) of the Exchange Act, would beneficially own more than the Beneficial Ownership Limitation. The Common Stock and the Warrants together may be deemed beneficially owned by Redmile as investment manager of such private investment vehicles and/or sub-advised accounts. The reported securities may also be deemed beneficially owned by Jeremy C. Green as the principal of Redmile. Redmile and Mr. Green each disclaim beneficial ownership of these shares, except to the extent of its or his pecuniary interest in such shares, if any.

** Percentage based on (i) 12,823,696 shares of Common Stock outstanding as of December 18, 2023, as reported by the Issuer in its Form 8-K, plus (ii) 15,756 shares of Common Stock issuable upon exercise of certain of the Warrants, which due to the Beneficial Ownership Limitation is the maximum number of shares that could be issued upon exercise of the Warrants.

*** Percentage based on 12,823,696 shares of Common Stock outstanding as of December 18, 2023, as reported by the Issuer in its Form 8-K.

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 5 percent of the class of securities, check the following

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

N/A.

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

See the response to Item 4.

Item 8. Identification and Classification of Members of the Group.

N/A

Item 9. Notice of Dissolution of Group.

N/A

Item 10. Certifications.

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, other than activities solely in connection with a nomination under § 240.14a-11.

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.

Date: December 22, 2023

Redmile Group, LLC

By: /s/ Jeremy C. Green

Name: Jeremy C. Green

Title: Managing Member

/s/ Jeremy C. Green

Jeremy C. Green

Redmile Biopharma Investments I, L.P.

By: Redmile Biopharma Investments I (GP), LLC, its general partner

By: Redmile Group, LLC, its managing member

By: /s/ Jeremy C. Green

Name: Jeremy C. Green

Title: Managing Member

Joint Filing Agreement

In accordance with Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), the undersigned hereby agree to the joint filing on behalf of each of them of a Statement on Schedule 13G (including any and all amendments thereto, the "Schedule 13G") relating to the Common Stock, \$0.000001 par value per share, of Neurogene Inc., which may be deemed necessary pursuant to Regulation 13D or 13G promulgated under the Exchange Act.

The undersigned further agree that each party hereto is responsible for the timely filing of the Schedule 13G, and for the accuracy and completeness of the information concerning such party contained therein; provided, however, that no party is responsible for the accuracy or completeness of the information concerning any other party, unless such party knows or has a reason to believe that such information is inaccurate.

It is understood and agreed that a copy of this Joint Filing Agreement shall be attached as an exhibit to the Schedule 13G, filed on behalf of each of the parties hereto.

IN WITNESS WHEREOF, each of the undersigned has executed this Joint Filing Agreement as of the 22nd day of December, 2023.

REDMILE GROUP, LLC

/s/ Jeremy C. Green

Name: Jeremy C. Green

Title: Managing Member

/s/ Jeremy C. Green

Jeremy C. Green

REDMILE BIOPHARMA INVESTMENTS I, L.P.

By: Redmile Biopharma Investments I (GP), LLC, its general partner

By: Redmile Group, LLC, its managing member

By: /s/ Jeremy C. Green

Name: Jeremy C. Green

Title: Managing Member
