
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D/A

Under the Securities Exchange Act of 1934
(Amendment No. 1)*

Eliem Therapeutics, Inc.

(Name of Issuer)

Common Stock, par value \$0.0001 per share

(Title of Class of Securities)

28658R 106

(CUSIP Number)

RA Capital Management, L.P.
200 Berkeley Street, 18th Floor
Boston, MA 02116
Attn: Peter Kolchinsky
Telephone: 617.778.2500

(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

April 6, 2023

(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box.

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Section 240.13d-7 for other parties to whom copies are to be sent.

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

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

1.	Names of Reporting Persons.	
	RA Capital Management, 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.	Source of Funds (See Instructions)	
	AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	Delaware	
	7. Sole Voting Power	
	0	
Number of Shares Beneficially Owned by Each Reporting Person With	8. Shared Voting Power	
	13,163,071	
	9. Sole Dispositive Power	
	0	
	10. Shared Dispositive Power	
	13,163,071	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	13,163,071	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row (11)	
	48.8%¹	
14.	Type of Reporting Person (See Instructions)	
	IA, PN	

¹ The Reporting Person is the beneficial owner of 13,150,849 shares of the Issuer's Common Stock as well as conversion shares underlying each of 11,111 vested stock options (right to buy) and 1,111 stock options (right to buy) which will vest within 60 days held by Dr. Levin for the benefit of RA Capital. The percentage calculation assumes that there are 26,983,657 outstanding shares of Common Stock of the Issuer, based on 26,971,435 outstanding shares of Common Stock of the Issuer based on the Issuer's Form DEF 14A filed with the Securities and Exchange Commission ("SEC") on April 6, 2023, and giving effect to stock options referenced herein.

1.	Names of Reporting Persons.	
	Peter Kolchinsky	
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.	Source of Funds (See Instructions)	
	AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	United States	
	7. Sole Voting Power	
	0	
Number of Shares Beneficially Owned by Each Reporting Person With	8. Shared Voting Power	
	13,163,071	
	9. Sole Dispositive Power	
	0	
	10. Shared Dispositive Power	
	13,163,071	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	13,163,071	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row (11)	
	48.8%²	
14.	Type of Reporting Person (See Instructions)	
	HC, IN	

² The Reporting Person is the beneficial owner of 13,150,849 shares of the Issuer's Common Stock as well as conversion shares underlying each of 11,111 vested stock options (right to buy) and 1,111 stock options (right to buy) which will vest within 60 days held by Dr. Levin for the benefit of RA Capital. The percentage calculation assumes that there are 26,983,657 outstanding shares of Common Stock of the Issuer, based on 26,971,435 outstanding shares of Common Stock of the Issuer based on the Issuer's Form DEF 14A filed with the SEC on April 6, 2023, and giving effect to stock options referenced herein.

1.	Names of Reporting Persons.	
	Rajeev Shah	
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.	Source of Funds (See Instructions)	
	AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	United States	
	7. Sole Voting Power	
	0	
Number of Shares Beneficially Owned by Each Reporting Person With	8. Shared Voting Power	
	13,163,071	
	9. Sole Dispositive Power	
	0	
	10. Shared Dispositive Power	
	13,163,071	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	13,163,071	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row (11)	
	48.8%³	
14.	Type of Reporting Person (See Instructions)	
	HC, IN	

³ The Reporting Person is the beneficial owner of 13,150,849 shares of the Issuer's Common Stock as well as conversion shares underlying each of 11,111 vested stock options (right to buy) and 1,111 stock options (right to buy) which will vest within 60 days held by Dr. Levin for the benefit of RA Capital. The percentage calculation assumes that there are 26,983,657 outstanding shares of Common Stock of the Issuer, based on 26,971,435 outstanding shares of Common Stock of the Issuer based on the Issuer's Form DEF 14A filed with the SEC on April 6, 2023, and giving effect to stock options referenced herein.

1. Names of Reporting Persons.
RA Capital Healthcare Fund, L.P.
2. Check the Appropriate Box if a Member of a Group (See Instructions)
(a)
(b)
3. SEC Use Only
4. Source of Funds (See Instructions)
WC
5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)
6. Citizenship or Place of Organization
Delaware
- | | |
|---|---|
| Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With | 7. Sole Voting Power
0 |
| | 8. Shared Voting Power
10,599,586 |
| | 9. Sole Dispositive Power
0 |
| | 10. Shared Dispositive Power
10,599,586 |
11. Aggregate Amount Beneficially Owned by Each Reporting Person
10,599,586
12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)
13. Percent of Class Represented by Amount in Row (11)
39.3%⁴
14. Type of Reporting Person (See Instructions)
PN

⁴ The Reporting Person is the beneficial owner of 10,599,586 shares of the Issuer's Common Stock. The percentage calculation assumes that there are 26,983,657 outstanding shares of Common Stock of the Issuer, based on 26,971,435 outstanding shares of Common Stock of the Issuer based on the Issuer's Form DEF 14A filed with the SEC on April 6, 2023, and giving effect to stock options referenced herein.

Item 1. Security and Issuer

Item 1 of the Statement is amended and supplemented as follows:

This Amendment No. 1 amends and supplements the statement on Schedule 13D originally filed with the Securities and Exchange Commission (the “SEC”) on August 19, 2021 (the “Statement”), by the Reporting Persons with respect to the common stock, par value \$0.0001 per share (the “Common Stock”), of Eliem Therapeutics, Inc., a Delaware corporation (the “Issuer”), which has its principal executive offices at 23515 NE Novelty Hill Road, Suite B221 #125 Redmond, WA. Unless otherwise defined herein, capitalized terms used in this Amendment No. 1 shall have the meanings ascribed to them in the Statement. Unless amended or supplemented below, the information in the Statement remains unchanged.

Item 2. Identity and Background

Item 2 of the Statement is amended and restated as follows:

- (a) This 13D/A is being filed on behalf of RA Capital Management, L.P. (“RA Capital”), Peter Kolchinsky, Rajeev Shah, and RA Capital Healthcare Fund, L.P. (the “Fund”). RA Capital, Dr. Kolchinsky, Mr. Shah and the Fund are collectively referred to herein as the “Reporting Persons.”

The Reporting Persons ownership of the Issuer’s securities includes (1) 10,599,586 Common Stock shares held directly by the Fund, (2) 1,226,497 Common Stock shares held directly by RA Capital Nexus Fund, L.P. (the “Nexus Fund”), (3) 483,679 Common Stock shares held directly by RA Capital Nexus Fund II, L.P. (the “Nexus Fund II”), (4) 841,087 Common Stock Shares held directly by a separately managed account (the “Account”), (5) a total of 11,111 vested stock options (right to buy), and (6) 1,111 stock options (right to buy) which shall vest within 60 days of this filing.

RA Capital Healthcare Fund GP, LLC is the general partner of the Fund, RA Capital Nexus Fund GP, LLC is the general partner of the Nexus Fund, and RA Capital Nexus Fund II GP, LLC is the general partner of the Nexus Fund II. The general partner of RA Capital is RA Capital Management GP, LLC, of which Dr. Kolchinsky and Mr. Shah are the controlling persons. RA Capital serves as investment adviser for the Fund, the Nexus Fund, the Nexus Fund II, and the Account and may be deemed a beneficial owner, for purposes of Section 13(d) of the Securities Exchange Act of 1934 (the “Act”), of any securities of the Issuer held by the Fund, the Nexus Fund, the Nexus Fund II or the Account. The Fund, the Nexus Fund, and the Nexus Fund II have delegated to RA Capital the sole power to vote and the sole power to dispose of all securities held in the Fund, the Nexus Fund, and the Nexus Fund II, and each of these funds has divested themselves of voting and investment power over the reported securities they hold and may not revoke that delegation on less than 61 days’ notice. The Fund, the Nexus Fund, and the Nexus Fund II disclaim beneficial ownership of the securities they hold for purposes of Section 13(d) of the Act and therefore disclaim any obligation to report ownership of the reported securities under Section 13(d) of the Act. As managers of RA Capital, Dr. Kolchinsky and Mr. Shah may be deemed beneficial owners, for purposes of Section 13(d) of the Act, of any securities of the Issuer beneficially owned by RA Capital. RA Capital, Dr. Kolchinsky, and Mr. Shah disclaim beneficial ownership of the securities reported in this 13D/A other than for the purpose of determining their obligations under Section 13(d) of the Act, and the filing of the 13D/A shall not be deemed an admission that either RA Capital, Dr. Kolchinsky, or Mr. Shah is the beneficial owner of such securities for any other purpose.

- (b) The address of the principal business office of each of the Reporting Persons is 200 Berkeley Street, 18th Floor, Boston, MA 02116.
- (c) The Fund is a private investment vehicle. RA Capital provides investment management services to the Fund, the Nexus Fund, the Nexus Fund II, and the Account. The principal occupation of Dr. Kolchinsky and Mr. Shah is investment management.
- (d) During the last five years, none of the Reporting Persons has been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).
- (e) During the last five years, none of the Reporting Persons has been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree of final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) See Item 6 of the cover pages.

Item 4. Purpose of Transaction

Item 4 of the Statement is amended and restated as follows:

The Reporting Persons acquired the Common Stock reported herein for investment purposes and not with an intent, purpose or effect of changing control of the Issuer. Although the Reporting Persons currently have no plan or proposal to acquire any additional Issuer securities or to dispose of any of the Issuer securities reported herein, the Reporting Persons may acquire additional Issuer securities from time to time or dispose of Issuer securities they beneficially own, on the open market or in private transactions or otherwise (including by means of 10b5-1 programs), consistent with their investment purposes and in amounts, on such terms and at such times as to be determined by the Reporting Persons based upon a number of factors, including, without limitation, their ongoing assessment of the Issuer's business prospects, the availability of Issuer securities at prices that would make the purchase or sale of such securities desirable, prevailing market conditions, the availability of other investment opportunities, and/or other considerations.

In addition, consistent with their investment purpose, the Reporting Persons may engage in communications with persons associated with the Issuer, including shareholders of the Issuer, officers of the Issuer, members of the board of directors of the Issuer, and/or other third parties, to discuss matters regarding the Issuer, including but not limited to its operations, strategic direction, governance or capitalization, and potential business combinations or dispositions involving the Issuer or certain of its businesses. Dr. Andrew Levin, a Partner and Managing Director of RA Capital, currently serves as a director of the Issuer and therefore will engage in regular discussions with the Issuer's board of directors and management as part of his duties as a director.

Neither Dr. Levin (other than in his capacity as a director) nor the Reporting Persons have any present plans or proposals that relate to, or could result in, any of the matters referred to in paragraphs (a) through (j), inclusive, of the instructions to Item 4 of Schedule 13D.

Depending on various factors including, without limitation, the Issuer's financial position, results and strategic direction, actions taken by the Issuer's management and Board, other investment opportunities available to RA Capital, the price levels of the Issuer securities, conditions in the securities markets and general economic and industry conditions, the Reporting Persons may change their purpose and formulate and implement plans or proposals with respect to the Issuer at any time and from time to time. Any such action may be made by the Reporting Persons alone or in conjunction with other shareholders, potential acquirers, financing sources and/or other third parties and could include one or more purposes, plans or proposals that relate to or would result in actions required to be reported herein in accordance with Item 4 of Schedule 13D.

Item 5. Interest in Securities of the Issuer

Item 5 of the Statement is amended and supplemented as follows:

- (a) The information set forth in rows 11 and 13 of the cover pages to this Schedule 13D/A is incorporated by reference. The percentage set forth in row 13 is based on 26,971,435 outstanding shares of Common Stock, as reported by the Issuer in its Form DEF 14A with the Securities and Exchange Commission on April 6, 2023, and giving effect to the stock options referenced herein.
- (b) The information set forth in rows 7 through 10 of the cover pages to this Schedule 13D/A and Item 2 above is incorporated by reference.
- (c) The following table lists the Reporting Persons' transactions in Common Stock that were effected during the sixty day period prior to the filing of this Schedule 13D/A⁵:

Transaction	Purchaser	Date	No. Shares	Price
Vest Stock Option (Right to Buy)	RA Capital	1-Mar-2023	556	(1)
Vest Stock Option (Right to Buy)	RA Capital	1-April-2023	555	(1)
Vest Stock Option (Right to Buy)	RA Capital	1-May-2023	556	(1)*
Vest Stock Option (Right to Buy)	RA Capital	1-June-2023	555	(1)*

(1) This option represents a right to purchase a total of 20,000 shares of the Issuer's Common Stock, which began vesting on August 1, 2021 in 36 equal monthly installments over three years, subject to Dr. Levins' continued service to the Issuer through each vesting date. These options have an exercise price of \$12.50.

* Represents future vesting options within 60 days from the filing date of this 13D/A.

- (d) No person (other than the Reporting Persons) is known to have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the shares of Common Stock subject to this Schedule 13D/A.
- (e) Not applicable.

Item 7. Material to be Filed as Exhibits

Item 7 of the Statement is amended and supplemented by the following:

Exhibit 1 Joint Filing Agreement

⁵ The Common Stock and percentage ownership reported in this amendment reflect an increase in the number of outstanding shares of the Issuer.

SIGNATURES

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: April 10, 2023

RA CAPITAL MANAGEMENT, L.P.

By: /s/ Peter Kolchinsky
Name: Peter Kolchinsky
Title: Authorized Signatory

PETER KOLCHINSKY

/s/ Peter Kolchinsky

RAJEEV SHAH

/s/ Rajeev Shah

RA CAPITAL HEALTHCARE FUND, L.P.

By: RA Capital Healthcare Fund GP, LLC
Its: General Partner

By: /s/ Peter Kolchinsky
Name: Peter Kolchinsky
Title: Manager

JOINT FILING AGREEMENT

This Joint Filing Agreement, dated as of April 10, 2023, is by and among RA Capital Management, L.P., Peter Kolchinsky, Rajeev Shah, and RA Capital Healthcare Fund, L.P. (the foregoing are collectively referred to herein as the "Filers").

Each of the Filers may be required to file with the United States Securities and Exchange Commission a statement on Schedule 13G and/or 13D with respect to Common Stock, par value \$0.0001 per share of Eliem Therapeutics, Inc. beneficially owned by them from time to time.

Pursuant to and in accordance with Rule 13(d)(1)(k) promulgated under the Securities Exchange Act of 1934, as amended, the Filers hereby agree to file a single statement on Schedule 13G and/or 13D (and any amendments thereto) on behalf of each of such parties, and hereby further agree to file this Joint Filing Agreement as an exhibit to such statement, as required by such rule.

This Joint Filing Agreement may be terminated by any of the Filers upon one week's prior written notice or such lesser period of notice as the Filers may mutually agree.

Executed and delivered as of the date first above written.

RA CAPITAL MANAGEMENT, L.P.

By: /s/ Peter Kolchinsky
Name: Peter Kolchinsky
Title: Authorized Signatory

PETER KOLCHINSKY

/s/ Peter Kolchinsky

RAJEEV SHAH

/s/ Rajeev Shah

RA CAPITAL HEALTHCARE FUND, L.P.

By: RA Capital Healthcare Fund GP, LLC
Its: General Partner

By: /s/ Peter Kolchinsky
Name: Peter Kolchinsky
Title: Manager
