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

**SCHEDULE 13D**

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

**LENZ Therapeutics, Inc.**

(Name of Issuer)

**Common stock, \$0.00001 par value per share**

(Title of Class of Securities)

**52635N103**

(CUSIP Number)

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

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

**March 21, 2024**

(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 Rule 13d-7 for other parties to whom copies are to be sent.

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

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

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1. Names of Reporting Persons  
**RA Capital Management, L.P.**

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2. Check the Appropriate Box if a Member of a Group (See Instructions)  
(a)   
(b)

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3. SEC Use Only

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4. Source of Funds (See Instructions)  
**AF**

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5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

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6. Citizenship or Place of Organization  
**Delaware**

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7. Sole Voting Power  
**0**

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8. Shared Voting Power  
**4,250,856**

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9. Sole Dispositive Power  
**0**

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10. Shared Dispositive Power  
**4,250,856**

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11. Aggregate Amount Beneficially Owned by Each Reporting Person  
**4,250,856**

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12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

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13. Percent of Class Represented by Amount in Row (11)  
**16.6%**

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14. Type of Reporting Person (See Instructions)  
**IA, PN**

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Number of  
Shares  
Beneficially  
Owned by  
Each  
Reporting  
Person With

1. Names of Reporting Persons  
**Peter Kolchinsky**

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2. Check the Appropriate Box if a Member of a Group (See Instructions)  
(a)   
(b)

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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)

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6. Citizenship or Place of Organization  
**United States**

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7. Sole Voting Power  
**0**

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8. Shared Voting Power  
**4,250,856**

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9. Sole Dispositive Power.  
**0**

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10. Shared Dispositive Power  
**4,250,856**

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11. Aggregate Amount Beneficially Owned by Each Reporting Person  
**4,250,856**

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12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

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13. Percent of Class Represented by Amount in Row (11)  
**16.6%**

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14. Type of Reporting Person (See Instructions)  
**HC, IN**

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Number of  
Shares  
Beneficially  
Owned by  
Each  
Reporting  
Person With

1. Names of Reporting Persons  
**Rajeev Shah**

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2. Check the Appropriate Box if a Member of a Group (See Instructions)  
(a)    
(b)

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3. SEC Use Only

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4. Source of Funds (See Instructions)  
**AF**

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5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

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6. Citizenship or Place of Organization  
**United States**

---

7. Sole Voting Power  
**0**

---

8. Shared Voting Power  
**4,250,856**

---

9. Sole Dispositive Power  
**0**

---

10. Shared Dispositive Power  
**4,250,856**

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11. Aggregate Amount Beneficially Owned by Each Reporting Person  
**4,250,856**

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12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

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13. Percent of Class Represented by Amount in Row (11)  
**16.6%**

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14. Type of Reporting Person (See Instructions)  
**HC, IN**

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Number of  
Shares  
Beneficially  
Owned by  
Each  
Reporting  
Person With

1. Names of Reporting Persons  
**RA Capital Healthcare Fund, L.P.**

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2. Check the Appropriate Box if a Member of a Group (See Instructions)  
(a) o  
(b) o

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3. SEC Use Only

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4. Source of Funds (See Instructions)  
**WC**

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5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) o

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6. Citizenship or Place of Organization  
**Delaware**

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7. Sole Voting Power  
**0**

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8. Shared Voting Power  
**3,373,921**

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9. Sole Dispositive Power  
**0**

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10. Shared Dispositive Power  
**3,373,921**

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11. Aggregate Amount Beneficially Owned by Each Reporting Person  
**3,373,921**

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12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) o

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13. Percent of Class Represented by Amount in Row (11)  
**13.2%**

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14. Type of Reporting Person (See Instructions)  
**PN**

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Number of  
Shares  
Beneficially  
Owned by  
Each  
Reporting  
Person With

**Item 1. Security and Issuer**

This Schedule 13D relates to the shares of common stock, par value \$0.00001 per share ("Common Stock"), of LENZ Therapeutics, Inc., a Delaware corporation (the "Issuer"), which has its principal executive offices at 445 Marine View Ave., Ste. #320 Del Mar, CA 92014.

**Item 2. Identity and Background**

- (a) This Schedule 13D 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 agreement among the Reporting Persons to file this Schedule 13D jointly in accordance with Rule 13d-1(k) of the Securities Exchange Act of 1934, as amended, is attached hereto as Exhibit 1.

The Reporting Persons' beneficial ownership of the Issuer's Common Stock consists of (i) 3,319,339 shares of Common Stock and 54,582 shares of Common Stock issuable upon the exercise of immediately exercisable warrants ("Warrants") directly held by the Fund; (ii) 694,755 shares of Common Stock and 10,580 shares of Common Stock issuable upon the exercise of immediately exercisable Warrants directly held by the RA Capital Nexus Fund II, L.P. (the "Nexus Fund II"); (iii) 164,729 shares of Common Stock and 5,371 shares of Common Stock issuable upon the exercise of immediately exercisable Warrants directly held by a separately managed account (the "Account"); and (iv) 1,500 stock options (right to buy) scheduled to vest within 60 days of this filing held by Dr. Zach Scheiner for the benefit of RA Capital.

RA Capital Healthcare Fund GP, LLC is the general partner of the 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 each of the 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 II or the Account. Each of the Fund and the Nexus Fund II has delegated to RA Capital the sole power to vote and the sole power to dispose of all securities held in its portfolio, including the shares of the Issuer's Common Stock reported herein. Because each of the Fund and the Nexus Fund II has divested itself of voting and investment power over the reported securities it holds and may not revoke that delegation on less than 61 days' notice, each of the Fund and the Nexus Fund II disclaims beneficial ownership of the securities it holds for purposes of Section 13(d) of the Act and therefore disclaims 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 Schedule 13D other than for the purpose of determining their obligations under Section 13(d) of the Act, and the filing of this Schedule 13D 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 II and the Account. The principal occupation of each 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.
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### **Item 3. Source and Amount of Funds or Other Consideration**

Between October 2020 and March 2023, the Fund, the Nexus Fund II and the Account purchased an aggregate of 10,750,000 shares of Series A Preferred Stock, warrants to purchase an aggregate of 348,837 shares of Series A Preferred Stock and 5,033,388 shares of Series B Preferred Stock of LENZ OpCo (as defined below) at an aggregate purchase price of \$38,112,499.58.

On November 14, 2023, in connection with the Merger Agreement (as defined below), the Fund, the Nexus Fund II and other unrelated investors (collectively the “PIPE Investors”) entered into a subscription agreement with the Issuer (the “Subscription Agreement”), pursuant to which the Fund and the Nexus Fund II agreed to purchase 933,038 and 64,971 shares of Common Stock (the “PIPE Shares”), respectively, of the Issuer for the total purchase price of \$15 million (the “Financing Transaction”). The Financing Transaction was contingent upon and consummated simultaneously with the closing of the Merger (as defined below).

On March 21, 2024 (the “Closing Date”), the Issuer completed the transactions contemplated by the Agreement and Plan of Merger, dated as of November 14, 2023 (the “Merger Agreement”), by and among the Issuer, Generate Merger Sub, Inc., a Delaware corporation and wholly-owned subsidiary of the Issuer (“Generate Merger Sub”) and LENZ Therapeutics Operations, Inc. (previously named Lenz Therapeutics, Inc.), a Delaware corporation (“LENZ OpCo”), pursuant to which, among other matters, Generate Merger Sub merged with and into LENZ OpCo, with LENZ OpCo continuing as a wholly owned subsidiary of the Issuer and the surviving corporation of the Merger Agreement (the “Merger”).

At the effective time of the Merger, each outstanding share of LENZ OpCo’s Series A Preferred Stock and Series B Preferred Stock converted into shares of the Issuer’s Common Stock based on an exchange ratio determined in accordance with the Merger Agreement and each outstanding warrant to purchase shares of LENZ OpCo Series A Preferred Stock became exercisable for shares of Issuer Common Stock. Following the completion of the Merger, the Issuer changed its name to LENZ Therapeutics, Inc.

Pursuant to the Merger Agreement, on the Closing Date, the Issuer effected a reverse split of its Common Stock (the “Reverse Stock Split”), pursuant to which each 7 shares of Common Stock issued and outstanding immediately prior to the Reverse Stock Split were automatically without further action on the part of the Issuer or any holders of such Common Stock, reclassified, combined, converted and changed into one share of Common Stock. All share numbers and per share prices presented in this Schedule 13D give effect to the Reverse Stock Split.

The purchases of securities of LENZ OpCo and the PIPE Shares described herein were for cash and were funded by working capital of the Fund, the Nexus Fund II and the Account.

### **Item 4. Purpose of Transaction**

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 stockholders 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. Scheiner, a Principal at 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. Scheiner (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.

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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 stockholders, 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**

- (a) The information set forth in rows 11 and 13 of the cover pages to this Schedule 13D is incorporated by reference. The percentage set forth in row 13 is based on the sum of (i) 25,533,533 outstanding shares of Common Stock as of March 21, 2024, as reported by the Issuer in its Current Report on Form 8-K, filed with the Securities and Exchange Commission on March 22, 2024, (ii) an aggregate of 70,533 shares of Common Stock which the Reporting Persons may acquire upon the exercise of Warrants; and (iii) an aggregate of 1,500 shares issuable upon exercise of options held by Dr. Scheiner within 60 days.
- (b) The information set forth in rows 7 through 10 of the cover pages to this Schedule 13D and Item 2 above is incorporated by reference.
- (c) Schedule A sets forth all transactions with respect to the shares of Common Stock effected during the past sixty days by any Reporting Person and is incorporated herein by reference.
- (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.
- (e) Not applicable.

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

*Registration Rights Agreement*

In connection with the consummation of the Merger, on March 21, 2024, the Issuer entered into a registration rights agreement with the PIPE Investors, pursuant to which the Issuer agreed to file with the SEC (at its sole cost and expense), within ten calendar days after the Closing Date, a registration statement (the "Resale Registration Statement") registering the resale of the shares issued in the Financing Transaction.

The foregoing description is qualified in its entirety by the full text of the Registration Rights Agreement, a copy of which is filed herewith as Exhibit 2 and incorporated herein by reference.

*Lock-Up Agreements*

The shares reported on this Schedule 13D are subject to lock-up agreements, as referenced in the Issuer's proxy statement/prospectus filed with the SEC on February 13, 2024. Pursuant to the lock-up agreements, Dr. Scheiner, the Fund, the Nexus Fund II and the Account may not, with limited exceptions, for a period of 90 days commencing upon the Closing Date and ending on the date that is 90 days after the Closing Date offer, sell, or otherwise transfer or dispose of any of the Issuer's securities. The PIPE shares held by the Reporting Persons are not subject to these restrictions.

The foregoing description is qualified in its entirety by the full text of the Form of Lock-Up Agreement, a copy of which is filed herewith as Exhibit 3 and incorporated herein by reference.

*Warrants*

The Warrants held by the Fund, the Nexus Fund II and the Account are exercisable at any time during the period beginning on March 21, 2024 and ending on October 30, 2027. The exercise price of these Warrants is \$10.64 per share of Common Stock.

The foregoing description is qualified in its entirety by the full text of the Form of Warrant to Purchase Shares of Series A Preferred Stock, a copy of which is filed herewith as Exhibit 4 and incorporated herein by reference.

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CUSIP No. 52635N103

*Equity Awards*

Dr. Scheiner, a Principal at RA Capital, is a member of the Board of Directors of the Issuer. From time to time, Dr. Scheiner may receive stock options or other awards of equity-based compensation pursuant to the Issuer's compensation arrangements for non-employee directors. Pursuant to an agreement with RA Capital, Dr. Scheiner is obligated to transfer any securities issued under any such stock options or other awards, or the economic benefit thereof, to RA Capital.

**Item 7. Material to be Filed as Exhibits**

[Exhibit 1](#)      [Joint Filing Agreement](#)

[Exhibit 2](#)      [Registration Rights Agreement, dated March 21, 2024, by and among LENZ Therapeutics, Inc. and certain parties thereto \(incorporated by reference to Exhibit 10.21 to the Issuer's Current Report on Form 8-K \(File No. 1-40532\) filed on March 22, 2024\).](#)

[Exhibit 3](#)      [Form of Lock-Up Agreement \(incorporated by reference to Exhibit 10.8 to the Issuer's Current Report on Form 8-K \(File No. 1-40532\) filed on March 22, 2024\).](#)

[Exhibit 4](#)      [Form of Warrant to Purchase Shares of Series A Preferred Stock \(incorporated by reference to Exhibit 4.5 to the Issuer's Registration Statement on Form S-4 \(Registration No. 333-275919\) filed on December 6, 2023\).](#)

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CUSIP No. 52635N103

**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: March 28, 2024

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

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## SCHEDULE A

Transaction	Purchaser	Date	No. Shares	Price
Merger Consideration – Common Stock	Fund	03/21/2024	2,386,301	(1)
Merger Consideration – Common Stock	Nexus Fund II	03/21/2024	629,784	(1)
Merger Consideration – Common Stock	Account	03/21/2024	164,729	(1)
Merger Consideration – Warrants	Fund	03/21/2024	54,582	(1)
Merger Consideration – Warrants	Nexus Fund II	03/21/2024	10,580	(1)
Merger Consideration – Warrants	Account	03/21/2024	5,371	(1)
Purchase – Common Stock	Fund	03/21/2024	933,038	\$15.03
Purchase – Common Stock	Nexus Fund II	03/21/2024	64,971	\$15.03
Vest Stock Option (Right to Buy) Common Stock	RA Capital	04/21/2024	750	(2)*
Vest Stock Option (Right to Buy) Common Stock	RA Capital	05/21/2024	750	(2)*

- (1) On March 21, 2024, these securities were received pursuant to the closing of the Merger in exchange for securities of LENZ OpCo without payment of further consideration.
- (2) This option represents a right to purchase a total of 27,000 shares of the Issuer's Common Stock, which vests from March 21, 2024 in 36 equal monthly installments over three years, subject to Dr. Scheiner's continued service to the Issuer through each vesting date. These options have an exercise price of \$15.05 per share.

\* Represents future vesting within 60 days of the filing date of this Schedule 13D.

**JOINT FILING AGREEMENT**

This Joint Filing Agreement, dated as of March 28, 2024, 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 \$0.00001 per share of LENZ 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

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