
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D/A

Under the Securities Exchange Act of 1934
(Amendment No. 2)*

PEPGEN INC.

(Name of Issuer)

Common Stock, par value \$0.0001 per share

(Title of Class of Securities)

713317105

(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)

February 9, 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 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)

(b)

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)

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

10,695,135

9. Sole Dispositive Power

0

10. Shared Dispositive Power

10,695,135

11. Aggregate Amount Beneficially Owned by Each Reporting Person

10,695,135

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

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

34.1%

14. Type of Reporting Person (See Instructions)

IA, PN

1. Names of Reporting Persons.

Peter Kolchinsky

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)

AF

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

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

10,695,135

9. Sole Dispositive Power

0

10. Shared Dispositive Power

10,695,135

11. Aggregate Amount Beneficially Owned by Each Reporting Person

10,695,135

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

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

34.1%

14. Type of Reporting Person (See Instructions)

HC, IN

1. Names of Reporting Persons.

Rajeev Shah

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)

AF

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

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

10,695,135

9. Sole Dispositive Power

0

10. Shared Dispositive Power

10,695,135

11. Aggregate Amount Beneficially Owned by Each Reporting Person

10,695,135

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

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

34.1%

14. Type of Reporting Person (See Instructions)

HC, IN

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

7. Sole Voting Power

0

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

8. Shared Voting Power

9,179,273

9. Sole Dispositive Power

0

10. Shared Dispositive Power

9,179,273

11. Aggregate Amount Beneficially Owned by Each Reporting Person

9,179,273

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

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

29.3%

14. Type of Reporting Person (See Instructions)

PN

1. Names of Reporting Persons.

RA Capital Nexus Fund, II 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

7. Sole Voting Power

0

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

8. Shared Voting Power

1,302,600

9. Sole Dispositive Power

0

10. Shared Dispositive Power

1,302,600

11. Aggregate Amount Beneficially Owned by Each Reporting Person

1,302,600

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

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

4.2%

14. Type of Reporting Person (See Instructions)

PN

Item 1. Security and Issuer

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

This Amendment No. 2 amends and supplements the statement on Schedule 13D originally filed with the Securities and Exchange Commission (the “SEC”) on May 20, 2022 and amended on June 23, 2022 (as amended, the “Statement”) by RA Capital Management, L.P. (“RA Capital”), Peter Kolchinsky, Rajeev Shah, RA Capital Healthcare Fund, L.P. (the “Fund”) and RA Capital Nexus Fund II, L.P. (the “Nexus Fund II”) with respect to the common stock, par value \$0.0001 per share (the “Common Stock”), of PepGen Inc., a Delaware corporation (the “Issuer”). Unless otherwise defined herein, capitalized terms used in this Amendment No. 2 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 hereby amended and supplemented as follows:

- (a) This Schedule 13D is being filed on behalf of RA Capital, Dr. Kolchinsky, Mr. Shah, the Fund, and the Nexus Fund II. RA Capital, Dr. Kolchinsky, Mr. Shah, the Fund, and the Nexus Fund II 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 Common Stock reported herein includes (i) 9,179,273 shares held by the Fund; (ii) 1,302,600 shares held by the Nexus Fund II; (iii) 207,672 shares held by a separately managed account (the “Account”); and (iv) a total of 5,104 shares underlying vested stock options (right to buy), and 486 shares underlying stock options (right to buy) which shall vest within 60 days of this filing held by Dr. Joshua Resnick 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 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. The 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 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 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 Statement other than for the purpose of determining their obligations under Section 13(d) of the Act, and the filing of the Statement 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 and the Nexus Fund II are private investment vehicles. RA Capital provides investment management services to the 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.
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Item 3. Source and Amount of Funds or Other Consideration

Item 3 of the Statement is hereby amended and supplemented to add the following:

On February 9, 2024, the Fund purchased 2,557,593 shares of Common Stock in the Issuer's underwritten public offering (the "February 2024 Public Offering") at a price of \$10.635 per share, for total consideration of \$27.2 million.

Item 5. Interest in Securities of the Issuer

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

- (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 31,343,547 outstanding shares of Common Stock on February 9, 2024 upon the closing of the February 2024 Public Offering, as reported by the Issuer in the final prospectus supplement for the February 2024 Public Offering, filed with the Securities and Exchange Commission on February 7, 2024, and giving effect to stock options, to the extent exercisable within 60 days hereof, as referenced herein.
- (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) The following table lists the Reporting Persons' transactions in Common Stock that have not previously been reported during the sixty day period prior to the filing of this amended Schedule 13D:

| Transaction | Purchaser | Date | No. Shares | Price |
|----------------------------------|------------|------------------|------------|----------|
| Vest Stock Option (Right to Buy) | RA Capital | January 6, 2024 | 243 | (1) |
| Vest Stock Option (Right to Buy) | RA Capital | February 6, 2024 | 243 | (1) |
| Vest Stock Option (Right to Buy) | RA Capital | March 6, 2024 | 243 | (1) |
| Vest Stock Option (Right to Buy) | RA Capital | April 6, 2024 | 243 | (1) |
| February 2024 Public Offering | The Fund | February 9, 2024 | 2,557,593 | \$10.635 |

- (1) This option represents a right to purchase a total of 11,667 shares of the Issuer's Common Stock, which began vesting from May 6, 2022 and vested with respect to 25% of the shares on May 6, 2023, with the remainder vesting in 36 equal monthly installments, subject to Dr. Joshua Resnick's continuous service to the Issuer through each vesting date. These options have an exercise price of \$12.00 per share.
 - (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) As of February 9, 2024, upon the closing of the February 2024 Public Offering, the Nexus Fund II ceased to be the beneficial owner of more than 5% of the Issuer's Common Stock.
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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: February 13, 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

RA CAPITAL NEXUS FUND II, L.P.

By: RA Capital Nexus Fund II GP, LLC
Its: General Partner

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

JOINT FILING AGREEMENT

This Joint Filing Agreement, dated as of February 13, 2024 is by and among RA Capital Management, L.P., Peter Kolchinsky, Rajeev Shah, RA Capital Healthcare Fund, L.P., and the RA Capital Nexus Fund II, 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 PepGen 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

RA CAPITAL NEXUS FUND II, L.P.

By: RA Capital Nexus Fund II GP, LLC
Its: General Partner

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