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

SCHEDULE 13D/A

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

Black Diamond Therapeutics, Inc.

(Name of Issuer)

Common stock, \$0.0001 par value per share

(Title of Class of Securities)

09203E105

(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)

May 7, 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).

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	2,788,028
		9. Sole Dispositive Power	0
		10. Shared Dispositive Power	2,788,028

11. Aggregate Amount Beneficially Owned by Each Reporting Person
2,788,028

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

13. Percent of Class Represented by Amount in Row (11)
4.95%

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

Number of Shares Beneficially Owned by Each Reporting Person With	7.	Sole Voting Power 0
	8.	Shared Voting Power 2,788,028
	9.	Sole Dispositive Power. 0
	10.	Shared Dispositive Power 2,788,028

11. Aggregate Amount Beneficially Owned by Each Reporting Person
2,788,028

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

13. Percent of Class Represented by Amount in Row (11)
4.95%

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

1.	Names of Reporting Persons	Rajeev Shah
<hr/>		
2.	Check the Appropriate Box if a Member of a Group (See Instructions)	
	(a)	<input type="checkbox"/>
	(b)	<input type="checkbox"/>
<hr/>		
3.	SEC Use Only	
<hr/>		
4.	Source of Funds (See Instructions)	AF
<hr/>		
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)	<input type="checkbox"/>
<hr/>		
6.	Citizenship or Place of Organization	United States
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	7.	Sole Voting Power 0
Number of Shares Beneficially Owned by Each Reporting Person With	8.	Shared Voting Power 2,788,028
	9.	Sole Dispositive Power 0
	10.	Shared Dispositive Power 2,788,028
	<hr/>	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	2,788,028
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12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	<input type="checkbox"/>
<hr/>		
13.	Percent of Class Represented by Amount in Row (11)	4.95%
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14.	Type of Reporting Person (See Instructions)	HC, IN
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Item 1. Security and Issuer

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

This Amendment No. 1 (this “Amendment No. 1” or this “Schedule 13D/A”) amends and supplements the statement on Schedule 13D originally filed with the Securities and Exchange Commission (the “SEC”) on February 5, 2020 (the “Statement”) by the Reporting Persons with respect to the Common Stock, \$0.0001 par value (the “Common Stock”), of Black Diamond Therapeutics, Inc. (the “Issuer”). 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 hereby amended and restated as follows:

- (a) This Schedule 13D/A is being filed on behalf of RA Capital Management, L.P. (“RA Capital”), Peter Kolchinsky, and Rajeev Shah. RA Capital, Dr. Kolchinsky and Mr. Shah are collectively referred to herein as the “Reporting Persons.” The agreement among the Reporting Persons to file this Schedule 13D/A jointly in accordance with Rule 13d-1(k) of the Securities Exchange Act of 1934, as amended, (the “Act”), is attached hereto as Exhibit 1.

The Reporting Persons’ beneficial ownership of the Issuer’s Common Stock consists of (i) 2,527,696 shares of Common Stock directly held by RA Capital Healthcare Fund, L.P. (the “Fund”); (ii) 245,332 shares of Common Stock directly held by the RA Capital Nexus Fund, L.P. (the “Nexus Fund”); and (iii) a total of 15,000 vested stock options (right to buy) held by Mr. Shah for the benefit of RA Capital. Mr. Shah resigned from the board of directors of the Issuer effective January 17, 2024.

RA Capital Healthcare Fund GP, LLC is the general partner of the Fund and RA Capital Nexus Fund GP, LLC is the general partner of the Nexus Fund. 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 and the Nexus Fund and may be deemed a beneficial owner, for purposes of Section 13(d) of the Act, of any securities of the Issuer held by the Fund or the Nexus Fund. Each of the Fund and the Nexus Fund 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 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 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/A other than for the purpose of determining their obligations under Section 13(d) of the Act, and the filing of this Schedule 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) RA Capital provides investment management services to the Fund and the Nexus Fund. 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 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/A is incorporated by reference. The percentage set forth in row 13 is based on the sum of (i) 56,252,794 shares of Common Stock outstanding as of May 6, 2024, as reported in the Issuer's Quarterly Report on Form 10-Q filed with the SEC on May 9, 2024, (ii) 15,000 shares of Common Stock issued upon exercise of stock options on behalf of RA Capital on May 7, 2024, and (iii) 15,000 shares of Common Stock issuable upon the exercise of stock options within 60 days.
- (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) 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/A.
- (e) The Reporting Persons ceased to be the beneficial owners of more than five percent of the Common Stock on May 9, 2024.

Item 7. Material to be Filed as Exhibits

[Exhibit 1 Joint Filing Agreement](#)

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: May 9, 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

SCHEDULE A

Transaction	Seller/Purchaser	Date	No. Shares	Price
Open Market Sale	Fund	05/06/24	49,887	\$7.43 (1)
Open Market Sale	Nexus Fund	05/06/24	4,842	\$7.43 (1)
Open Market Sale	Fund	05/07/24	321,667	\$7.23 (2)
Open Market Sale	Nexus Fund	05/07/24	31,220	\$7.23 (2)
Exercise of Stock Option (Right to Buy)	RA Capital	05/07/24	15,000	\$2.14 (3)
Open Market Sale	RA Capital	05/07/24	15,000	\$7.08 (4)
Open Market Sale	Fund	05/08/24	94,994	\$7.06 (5)
Open Market Sale	Nexus Fund	05/08/24	9,220	\$7.06 (5)
Open Market Sale	Fund	05/09/24	219,584	\$6.79 (6)
Open Market Sale	Nexus Fund	05/09/24	21,312	\$6.79 (6)

- (1) These transactions were executed in multiple trades at prices ranging from \$7.43 to \$7.44 per share; the price reported above reflects the weighted average sale price. The Reporting Persons hereby undertake, upon request, to provide full information to the staff of the Securities and Exchange Commission, the Issuer, or a security holder of the Issuer regarding the number of shares and prices at which these transactions, and all other transactions reported in this Schedule 13D/A, were effected.
- (2) These transactions were executed in multiple trades at prices ranging from \$7.10 to \$7.39 per share; the price reported above reflects the weighted average sale price. The Reporting Persons hereby undertake, upon request, to provide full information to the staff of the Securities and Exchange Commission, the Issuer, or a security holder of the Issuer regarding the number of shares and prices at which these transactions, and all other transactions reported in this Schedule 13D/A, were effected.
- (3) This option represented a right to purchase a total of 15,000 shares of the Issuer's Common Stock, which vested in full on May 16, 2023. These options had an exercise price of \$2.14.
- (4) These transactions were executed in multiple trades at prices ranging from \$7.07 to \$7.15 per share; the price reported above reflects the weighted average sale price. The Reporting Persons hereby undertake, upon request, to provide full information to the staff of the Securities and Exchange Commission, the Issuer, or a security holder of the Issuer regarding the number of shares and prices at which these transactions, and all other transactions reported in this Schedule 13D/A, were effected.
- (5) These transactions were executed in multiple trades at prices ranging from \$6.95 to \$7.28 per share; the price reported above reflects the weighted average sale price. The Reporting Persons hereby undertake, upon request, to provide full information to the staff of the Securities and Exchange Commission, the Issuer, or a security holder of the Issuer regarding the number of shares and prices at which these transactions, and all other transactions reported in this Schedule 13D/A, were effected.
- (6) These transactions were executed in multiple trades at prices ranging from \$6.73 to \$7.33 per share; the price reported above reflects the weighted average sale price. The Reporting Persons hereby undertake, upon request, to provide full information to the staff of the Securities and Exchange Commission, the Issuer, or a security holder of the Issuer regarding the number of shares and prices at which these transactions, and all other transactions reported in this Schedule 13D/A, were effected.

JOINT FILING AGREEMENT

This Joint Filing Agreement, dated as of May 9, 2024, is by and among RA Capital Management, L.P., Peter Kolchinsky and Rajeev Shah (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 Black Diamond 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
