

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D/A

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

Cytek BioSciences, Inc.

(Name of Issuer)

Common Stock, par value \$0.001 per share

(Title of Class of Securities)

23285D109

(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)

March 10, 2022

(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

13,139,327

9. Sole Dispositive Power

0

10. Shared Dispositive Power

13,139,327

11. Aggregate Amount Beneficially Owned by Each Reporting Person

13,139,327

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

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

9.8%

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

13,139,327

9. Sole Dispositive Power

0

10. Shared Dispositive Power

13,139,327

11. Aggregate Amount Beneficially Owned by Each Reporting Person

13,139,327

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

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

9.8%

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

13,139,327

9. Sole Dispositive Power

0

10. Shared Dispositive Power

13,139,327

11. Aggregate Amount Beneficially Owned by Each Reporting Person

13,139,327

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

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

9.8%

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

11,445,836

9. Sole Dispositive Power

0

10. Shared Dispositive Power

11,445,836

11. Aggregate Amount Beneficially Owned by Each Reporting Person

11,445,836

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

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

8.6%

14. Type of Reporting Person (See Instructions)

PN

Item 1. Security and Issuer

This Amendment No. 2 amends and supplements the statement on Schedule 13D/A filed with the Securities and Exchange Commission (the “SEC”) on February 28th, 2021 by the Reporting Persons with respect to the shares of common stock, \$0.001 par value per share (“Common Stock”), of Cytek BioSciences, Inc., a Delaware corporation (the “Issuer”), which has its principal executive offices at 46107 Landing Pkwy, Fremont, CA 94538. 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 is hereby amended and restated as follows:

- (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 Common Stock reported herein includes 11,445,836 shares held by the Fund, 507,724 shares held in a separately managed account (the “Account”), and 1,185,767 shares held by RA Capital Nexus Fund II, L.P. (the “Nexus Fund II”). 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 Account, and the Nexus Fund II 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 Account, or the Nexus Fund II. 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’s and the Nexus Fund II’s portfolio, including the shares of the Issuer’s Common Stock reported herein. Because the Fund and the Nexus Fund II have 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 Schedule 13D Statement (the “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 is a private investment vehicle. RA Capital provides investment management services to the Fund, the Account, and the Nexus Fund II. 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 by adding the following:

Between February 28th, 2022 and March 14th, 2022 the Fund purchased a total of 2,057,164 shares of Common Stock in open market transactions for an aggregate \$26,321,658.81. The shares were purchased with working capital of the Fund.

Item 4. Purpose of Transaction

Item 4 of the Statement is hereby 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. The Reporting Persons hold the securities of the Issuer for general investment purposes. The Reporting Persons reserve the right, based on all relevant factors and subject to applicable law or other restrictions, at any time and from time to time, to acquire additional shares of Common Stock or other securities of the Issuer, dispose of some or all of the Common Stock or other securities of the Issuer that it may own from time to time, in each case in open market or private transactions, block sales or otherwise or pursuant to ordinary stock exchange transactions effected through one or more broker-dealers whether individually or utilizing specific pricing or other instructions (including by means of Rule 10b5-1 programs), and review or reconsider their position, change their purpose, take other actions or formulate and implement plans or proposals with respect to any of the foregoing.

The Reporting Persons intend to review their investment in the Issuer from time to time on the basis of various factors, including the Issuer's business, financial condition, results of operations and prospects, general economic and industry conditions, the securities markets in general and those for the Issuer's stock in particular, as well as other developments.

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 and/or members of the board of directors of the Issuer, to discuss matters regarding the Issuer, including but not limited to its operations and strategic direction. Tess Cameron, a Principal 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 her duties as a director.

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

Items 5(a), (b) and (c) of the Statement are hereby amended by adding the following:

- (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 133,749,663 outstanding shares of Common Stock, as reported by the Issuer in its Form 8-K filed with the Securities and Exchange Commission on February 23, 2022.
- (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 |
|-------------|-----------|---------------|------------|-----------|
| Purchase | The Fund | 01-March-2022 | 294,864 | \$12.9765 |
| Purchase | The Fund | 02-March-2022 | 138,255 | \$12.8908 |
| Purchase | The Fund | 04-March-2022 | 63,662 | \$12.9941 |
| Purchase | The Fund | 07-March-2022 | 337,901 | \$12.6101 |
| Purchase | The Fund | 08-March-2022 | 245,701 | \$12.8614 |
| Purchase | The Fund | 09-March-2022 | 40,154 | \$12.9938 |
| Purchase | The Fund | 10-March-2022 | 256,992 | \$12.9482 |
| Purchase | The Fund | 11-March-2022 | 337,492 | \$12.7687 |
| Purchase | The Fund | 14-March-2022 | 342,143 | \$12.3455 |

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 14, 2022

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
