
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934

(Amendment No. 11)*

Wave Life Sciences, Inc.

(Name of Issuer)

Common Stock, \$0.001 par value per share

(Title of Class of Securities)

(CUSIP Number)

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

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

08/07/2026

(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. ☐

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).

SCHEDULE 13D

CUSIP No.

1 Name of reporting person

RA Capital Management, L.P.

2 Check the appropriate box if a member of a Group (See Instructions)

	☐ (a)
	☐ (b)
3	SEC use only
	Source of funds (See Instructions)
4	AF
	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e)
5	☐
	Citizenship or place of organization
6	DELAWARE
	Sole Voting Power
7	0.00
Number of	Shared Voting Power
Shares	
Beneficially	8 34,314,406.00
Owned by	
Each	Sole Dispositive Power
Reporting	9 0.00
Person	
With:	Shared Dispositive Power
	10 34,314,406.00
	Aggregate amount beneficially owned by each reporting person
11	34,314,406.00
	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)
12	☐
	Percent of class represented by amount in Row (11)
13	16.8 %
	Type of Reporting Person (See Instructions)
14	IA, PN

SCHEDULE 13D

CUSIP No.

	Name of reporting person
1	Peter Kolchinsky
	Check the appropriate box if a member of a Group (See Instructions)
2	☐ (a)
	☐ (b)
3	SEC use only
	Source of funds (See Instructions)
4	AF
	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e)
5	☐
	Citizenship or place of organization
6	UNITED STATES
Number of	7 Sole Voting Power

Shares	
Beneficially	0.00
Owned by	Shared Voting Power
Each	8
Reporting	34,314,406.00
Person	Sole Dispositive Power
With:	9
	0.00
	Shared Dispositive Power
	10
	34,314,406.00
	Aggregate amount beneficially owned by each reporting person
11	34,314,406.00
	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)
12	☐
	Percent of class represented by amount in Row (11)
13	16.8 %
	Type of Reporting Person (See Instructions)
14	HC, IN

SCHEDULE 13D

CUSIP No.

	Name of reporting person
1	Rajeev Shah
	Check the appropriate box if a member of a Group (See Instructions)
2	☐ (a)
	☐ (b)
3	SEC use only
	Source of funds (See Instructions)
4	AF
	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e)
5	☐
	Citizenship or place of organization
6	UNITED STATES
	Sole Voting Power
7	0.00
	Shared Voting Power
Number of	8
Shares	34,314,406.00
Beneficially	Sole Dispositive Power
Owned by	9
Each	0.00
Reporting	Shared Dispositive Power
Person	10
With:	34,314,406.00
11	Aggregate amount beneficially owned by each reporting person

	34,314,406.00
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)
	☐
13	Percent of class represented by amount in Row (11)
	16.8 %
14	Type of Reporting Person (See Instructions)
	HC, IN

SCHEDULE 13D

CUSIP No.

1	Name of reporting person
	RA Capital Healthcare Fund, L.P.
	Check the appropriate box if a member of a Group (See Instructions)
2	☐ (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
	Sole Voting Power
7	0.00
Number of	Shared Voting Power
Shares	
Beneficially	8 34,069,161.00
Owned by	
Each	Sole Dispositive Power
Reporting	9 0.00
Person	
With:	Shared Dispositive Power
	10 34,069,161.00
	Aggregate amount beneficially owned by each reporting person
11	34,069,161.00
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)
	☐
13	Percent of class represented by amount in Row (11)
	16.7 %
14	Type of Reporting Person (See Instructions)
	PN

SCHEDULE 13D

Item 1. Security and Issuer

Title of Class of Securities:

(a)

Common Stock, \$0.001 par value per share

Name of Issuer:

(b)

Wave Life Sciences, Inc.

Address of Issuer's Principal Executive Offices:

(c)

733 Concord Avenue, Cambridge, MASSACHUSETTS , 02138.

Item 1 This Amendment No. 11 (this "Amendment No. 11" or this "Schedule 13D/A") amends and supplements the
Comment: statement on Schedule 13D originally filed with the Securities and Exchange Commission (the "SEC") on November 27, 2015, and amended on November 15, 2017, January 28, 2019, August 18, 2021, November 12, 2021, June 21, 2022, October 1, 2024, November 13, 2025, December 15, 2025, March 30, 2026 and April 17, 2026 (as amended, the "Statement") by the Reporting Persons with respect to the Ordinary Shares of Wave Life Sciences Ltd., the predecessor of the Issuer. Unless otherwise defined herein, capitalized terms used in this Amendment No. 11 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

This Schedule 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"), who are collectively referred to herein as the "Reporting Persons." The agreement among the Reporting Persons to file this 13D/A jointly in accordance with Rule 13d-1(k) of the Act, is attached hereto as Exhibit 99.1. The Reporting Persons' beneficial ownership of the Issuer's securities consists of (i) 26,975,505 shares of common stock directly held by the Fund; (ii) 7,093,656 shares of common stock issuable upon exercise of pre-funded warrants ("Pre-Funded Warrants") directly held by the Fund, which are immediately exercisable in full as of the date hereof; and (iii) 28,815 shares of common stock and vested options (right to buy) to purchase 216,430 shares of common stock held by Dr. Kolchinsky for the benefit of RA Capital. RA Capital Healthcare Fund GP, LLC is the general partner of the 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 the 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. The 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 the 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, the 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.

(a)

(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 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.

Item 4. Purpose of Transaction

Item 4 of the Statement is hereby amended and supplemented as follows: On August 7, 2026, as part of the Redomiciliation, Wave-Delaware, became the ultimate parent company of the Wave Life Sciences group of companies. Pursuant to the Scheme of Arrangement, all issued ordinary shares in the capital of Wave Life Sciences Ltd. ("Wave-Singapore") as of immediately prior to the effective time of the Scheme of Arrangement were exchanged on a one-for-one basis for newly issued shares of common stock, par value \$0.001 per share, of Wave-Delaware, and Wave-Singapore became a wholly owned subsidiary of Wave-Delaware.

Item 5. Interest in Securities of the Issuer

(a)

Rows 11 and 13 of each Reporting Person's cover page to this 13D/A set forth the aggregate number of shares of common stock and percentages of shares of common stock beneficially owned by such Reporting Person and are

incorporated by reference. The percentage set forth in each row 13 is based upon the sum of (i) 197,048,175 shares of common stock outstanding as of July 23, 2026, as reported in the Issuer's Quarterly Report on Form 10-Q filed with the SEC on July 30, 2026 and (ii) 12,700 shares of common stock issued upon the vesting of restricted stock units held by Dr. Kolchinsky on August 11, 2026, and giving effect to stock options and Pre-Funded Warrants, to the extent exercisable within 60 days hereof, as referenced herein.

- (b) Rows 7 through 10 of each Reporting Person's cover page to this 13D/A set forth the number of shares of common stock as to which such Reporting Person has the sole or shared power to vote or direct the vote and sole or shared power to dispose or to direct the disposition and are incorporated by reference.

- (c) Except as set forth below, none of the Reporting Persons has effected any transactions with respect to the securities of the Issuer during the past sixty days. Reporting No. Price Per Transaction Person Date Shares Share Vest Stock Option (Right to Buy) RA Capital 08/11/2026 76,200 (1) Vest Restricted Stock Units RA Capital 08/11/2026 12,700 (2) (1) This option represents a right to purchase a total of 76,200 shares of the Issuer's common stock, which vested in full on August 11, 2026. These options have an exercise price of \$8.11. (2) The restricted stock units vested in full on August 11, 2026.

- (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 13D/A.

- (e) Not applicable.

Item 7. Material to be Filed as Exhibits.

Exhibit 99.1 Joint Filing Agreement

SIGNATURE

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.

RA Capital Management, L.P.

Signature: /s/ Peter Kolchinsky

Name/Title: By Peter Kolchinsky, Authorized Signatory

Date: 08/11/2026

Peter Kolchinsky

Signature: /s/ Peter Kolchinsky

Name/Title: Peter Kolchinsky

Date: 08/11/2026

Rajeev Shah

Signature: /s/ Rajeev Shah

Name/Title: Rajeev Shah

Date: 08/11/2026

RA Capital Healthcare Fund, L.P.

Signature: /s/ Peter Kolchinsky

Name/Title: By RA Capital Healthcare Fund GP, LLC, its General Partner, By Peter Kolchinsky, Manager

Date: 08/11/2026

JOINT FILING AGREEMENT

This Joint Filing Agreement, dated as of August 11, 2026, 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 the common stock, \$0.001 par value per share of Wave Life Sciences, 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