

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

SCHEDULE 13D/A

Under the Securities Exchange Act of 1934

(Amendment No. 5)*

SOLID BIOSCIENCES INC.

(Name of Issuer)

Common Stock, par value \$0.001 per share

(Title of Class of Securities)

83422E105

(CUSIP Number)

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

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

September 29, 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 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) <input type="checkbox"/> (b) <input type="checkbox"/>
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): <input type="checkbox"/>
6	Citizenship or Place of Organization. Delaware
Number of Shares Beneficially Owned by Each Reporting Person With	7 Sole Voting Power 0 shares
	8 Shared Voting Power 12,447,873 shares
	9 Sole Dispositive Power 0 shares
	10 Shared Dispositive Power 12,447,873 shares
11	Aggregate Amount Beneficially Owned by Each Reporting Person 12,447,873 shares
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) <input type="checkbox"/>
13	Percent of Class Represented by Amount in Row (11) 11.01%¹
14	Type of Reporting Person (See Instructions) IA, PN

¹ The reporting person is the beneficial owner of 12,367,873 shares of the Issuer's Common Stock as well as conversion shares underlying 80,000 vested stock options (right to buy) held by Mr. Rajeev Shah for the benefit of RA Capital. The percentage calculation assumes that there are currently 112,989,773 outstanding shares of Common Stock of the Issuer based on the Issuer's Form 10-Q filed with the Securities and Exchange Commission ("SEC") on August 11, 2022 and giving effect to stock options referenced above.

1	Names of Reporting Persons.
	Peter Kolchinsky
2	Check the Appropriate Box if a Member of a Group (See Instructions)
	(a) <input type="checkbox"/>
	(b) <input type="checkbox"/>
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):
	<input type="checkbox"/>
6	Citizenship or Place of Organization. United States
	7 Sole Voting Power 0 shares
	8 Shared Voting Power 12,447,873 shares
	9 Sole Dispositive Power 0 shares
	10 Shared Dispositive Power 12,447,873 shares
11	Aggregate Amount Beneficially Owned by Each Reporting Person
	12,447,873 shares
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) <input type="checkbox"/>
13	Percent of Class Represented by Amount in Row (11)
	11.01%²
14	Type of Reporting Person (See Instructions)
	HC, IN

² The reporting person is the beneficial owner of 12,367,873 shares of the Issuer's Common Stock as well as conversion shares underlying 80,000 vested stock options (right to buy) held by Mr. Rajeev Shah for the benefit of RA Capital. The percentage calculation assumes that there are currently 112,989,773 outstanding shares of Common Stock of the Issuer based on the Issuer's Form 10-Q filed with the Securities and Exchange Commission ("SEC") on August 11, 2022 and giving effect to stock options referenced above.

1	Names of Reporting Persons.
	Rajeev Shah
2	Check the Appropriate Box if a Member of a Group (See Instructions)
	(a) <input type="checkbox"/>
	(b) <input type="checkbox"/>
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):
	<input type="checkbox"/>
6	Citizenship or Place of Organization. United States
Number of Shares Beneficially Owned by Each Reporting Person With	7 Sole Voting Power 0 shares
	8 Shared Voting Power 12,447,873 shares
	9 Sole Dispositive Power 0 shares
	10 Shared Dispositive Power 12,447,873 shares
11	Aggregate Amount Beneficially Owned by Each Reporting Person
	12,447,873 shares
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) <input type="checkbox"/>
13	Percent of Class Represented by Amount in Row (11)
	11.01%³
14	Type of Reporting Person (See Instructions)
	HC, IN

³ The reporting person is the beneficial owner of 12,367,873 shares of the Issuer's Common Stock as well as conversion shares underlying 80,000 vested stock options (right to buy) held by Mr. Rajeev Shah for the benefit of RA Capital. The percentage calculation assumes that there are currently 112,989,773 outstanding shares of Common Stock of the Issuer based on the Issuer's Form 10-Q filed with the Securities and Exchange Commission ("SEC") on August 11, 2022 and giving effect to stock options referenced above.

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) <input type="checkbox"/> (b) <input type="checkbox"/>
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): <input type="checkbox"/>
6	Citizenship or Place of Organization. United States
	Number of Shares Beneficially Owned by Each Reporting Person With
	7 Sole Voting Power 0 shares
	8 Shared Voting Power 12,447,873 shares
	9 Sole Dispositive Power 0 shares
	10 Shared Dispositive Power 12,447,873 shares
11	Aggregate Amount Beneficially Owned by Each Reporting Person 12,447,873 shares
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) <input type="checkbox"/>
13	Percent of Class Represented by Amount in Row (11) 11.01%⁴
14	Type of Reporting Person (See Instructions) PN

⁴ The reporting person is the beneficial owner of 12,367,873 shares of the Issuer's Common Stock as well as conversion shares underlying 80,000 vested stock options (right to buy) held by Mr. Rajeev Shah for the benefit of RA Capital. The percentage calculation assumes that there are currently 112,989,773 outstanding shares of Common Stock of the Issuer based on the Issuer's Form 10-Q filed with the Securities and Exchange Commission ("SEC") on August 11, 2022 and giving effect to stock options referenced above.

SCHEDULE 13D

Item 1. Security and Issuer

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

This Amendment No. 5 amends and supplements the statement on Schedule 13D originally filed with the Securities and Exchange Commission (the “SEC”) on February 9, 2018, as amended by Amendment No. 1 filed on July 30, 2019, Amendment No. 2 filed on December 16, 2020, Amendment No. 3 filed on March 23, 2021 and Amendment No. 4 filed on September 6, 2022 (the “Statement”) by RA Capital Management, L.P. (“RA Capital”), Dr. Kolchinsky, Mr. Shah and RA Capital Healthcare Fund, L.P. (the “Fund”) with respect to the common stock, par value \$0.001 per share (the “Common Stock”), of Solid Biosciences Inc., a Delaware corporation (the “Issuer”). Unless otherwise defined herein, capitalized terms used in this Amendment No. 5 shall have the meanings ascribed to them in the Statement.

Item 3. Purpose of Transaction

Item 3 of the Statement is hereby amended and supplemented as follows:

AavantiBio Merger Agreement

On September 29, 2022, the Issuer entered into an Agreement and Plan of Merger (the “Merger Agreement”) by and among the Issuer, Greenland Merger Sub LLC, a wholly owned subsidiary of the Issuer (“Transitory Subsidiary”), AavantiBio, Inc. (“AavantiBio”), and, solely in his capacity as equityholder representative, Doug Swirsky. The Merger Agreement provides for the acquisition of AavantiBio by the Issuer through the merger of Transitory Subsidiary into AavantiBio, with AavantiBio surviving as a wholly owned subsidiary of the Issuer (the “Merger”). At the effective time of the Merger, by virtue of the Merger and without any action on the part of the holders of capital stock of AavantiBio, all issued and outstanding shares of the preferred stock of AavantiBio will be converted into the right to receive, subject to certain adjustments based on AavantiBio’s indebtedness as of the closing, an aggregate of (i) \$1,000 and (ii) a number of shares of the Issuer’s Common Stock (the “Stock Consideration”) (rounded to the nearest whole share) equal to fifteen percent (15%) of the outstanding shares of the Issuer’s Common Stock as of immediately prior to the closing of the Merger (and for the avoidance of doubt, before giving effect to the issuance of any securities pursuant to the Private Placement (as defined below)), calculated on a fully diluted basis using the treasury stock method (including, for clarity, calculated by disregarding any out-of-the-money outstanding stock options of the Issuer). The Fund, RA Capital Nexus Fund, L.P. and a separately managed account (collectively, the “RA Capital AavantiBio Shareholders”), each of which is an affiliate of RA Capital, collectively hold approximately 32% of the outstanding shares of preferred stock of AavantiBio.

References to and the description of the Merger Agreement set forth above in this Item 3 do not purport to be complete and are qualified in their entirety by reference to the full text of the Merger Agreement, which is attached hereto as Exhibit 2 and incorporated by reference herein.

Securities Purchase Agreement

On September 29, 2022, the Issuer entered into securities purchase agreements (the “Securities Purchase Agreement”) with several accredited investors (the “PIPE Investors”), pursuant to which the Issuer agreed to issue and sell to the PIPE Investors in a private placement an aggregate of 159,574,463 shares of the Issuer’s Common Stock (the “PIPE Shares”), at a price of \$0.47 per share (the “Private Placement”). The Private Placement is expected to close immediately following the closing of the Merger, subject to the satisfaction of specified customary closing conditions, including approval from the stockholders of the Issuer, and contingent upon, among other things, the closing of the Merger. The Fund agreed to purchase 32,446,808 shares of the Issuer’s Common Stock in the Private Placement, for total consideration of \$15,249,999.76.

References to and the description of the Securities Purchase Agreement set forth above in this Item 3 do not purport to be complete and are qualified in their entirety by reference to the full text of the Securities Purchase Agreement, which is attached hereto as Exhibit 3 and incorporated by reference herein.

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

Item 6 of the Statement is hereby amended and supplemented to add the following:

Support Agreements

On September 29, 2022, the Fund entered into a support agreement with the Issuer and AavantiBio (the “Issuer Support Agreement”) pursuant to which the Fund agreed to vote all shares of the Issuer’s Common Stock held by it in favor of the Merger and the Private Placement and against any alternative acquisition proposals.

On September 29, 2022, certain of the RA Capital AavantiBio Shareholders entered into a support agreement with the Issuer and AavantiBio (the “AavantiBio Support Agreement”) pursuant to which they agreed to vote all of their shares of AavantiBio preferred stock in favor of the adoption of the Merger Agreement and against any alternative acquisition proposals.

References to and the descriptions of the Issuer Support Agreement and the AavantiBio Support Agreement set forth above in this Item 6 do not purport to be complete and are qualified in their entirety by reference to the full text of the Issuer Support Agreement and the AavantiBio Support Agreement, which are attached hereto as Exhibit 4 and Exhibit 5, respectively, and incorporated by reference herein.

Registration Rights Agreement

On September 29, 2022, the Issuer entered into a registration rights agreement (the “Registration Rights Agreement”) with the PIPE Investors, including the Fund, pursuant to which the Issuer agreed to register for resale the PIPE Shares and the Stock Consideration held by the PIPE Investors. Under the Registration Rights Agreement, the Issuer has agreed to file a registration statement covering the resale of the PIPE Shares and any Stock Consideration within 60 days following the closing of the Private Placement (the “Filing Date”). The Issuer has agreed to use commercially reasonable efforts to cause such registration statement to become effective as soon as practicable and to keep such registration statement effective until the date the PIPE Shares and any Stock Consideration covered by such registration statement have been sold or cease to be registrable securities under the Registration Rights Agreement.

If (i) the registration statement has not been filed by the Filing Date, (ii) the registration statement has not been declared effective by the SEC prior to the earlier of (A) five business days after the date on which the Issuer is notified by the SEC that the registration statement will not be reviewed by the SEC staff or is not subject to further comment by the SEC staff, or (B) 90 days following the closing of the Merger (or, in the event the SEC reviews and has written comments to the registration statement, 120 days following the closing of the Merger) or (iii) after the registration statement has been declared effective by the SEC, sales cannot be made pursuant to the registration statement for any reason (including by reason of a stop order or the Issuer's failure to update such registration statement), subject to certain limited exceptions, then the Issuer has agreed to make pro rata payments to each holder of registrable securities as liquidated damages in an amount equal to 1% of the aggregate amount invested by each such holder in the registrable securities for the initial day of failure and for each subsequent 30-day period (or pro rata for any portion thereof) for each such month during which such event continues, subject to certain caps set forth in the Registration Rights Agreement.

The Issuer has granted the PIPE Investors customary indemnification rights in connection with the registration statement. The PIPE Investors have also granted the Issuer customary indemnification rights in connection with the registration statement.

On or prior to the closing of the Merger, each AavantiBio shareholder receiving Stock Consideration in the Merger may elect to become party to the Registration Rights Agreement. The RA Capital AavantiBio Shareholders intend to join the Registration Rights Agreement with respect to their Stock Consideration pursuant to the foregoing election.

References to and the description of the Registration Rights Agreement set forth above in this Item 6 do not purport to be complete and are qualified in their entirety by reference to the full text of the Registration Rights Agreement, which is attached hereto as Exhibit 6 and incorporated by reference herein.

Item 7. Material to Be Filed as Exhibits

Item 7 of the Statement is hereby amended and supplemented as follows:

- Exhibit 1 Joint Filing Agreement
 - Exhibit 2 Merger Agreement (incorporated by reference from Exhibit 2.1 of the Issuer's Current Report on Form 8-K dated September 30, 2022)
 - Exhibit 3 Securities Purchase Agreement (incorporated by reference from Exhibit 10.3 of the Issuer's Current Report on Form 8-K dated September 30, 2022)
 - Exhibit 4 Form of Issuer Support Agreement (incorporated by reference from Exhibit 10.1 of the Issuer's Current Report on Form 8-K dated September 30, 2022)
 - Exhibit 5 Form of AavantiBio Support Agreement (incorporated by reference from Exhibit 10.2 of the Issuer's Current Report on Form 8-K dated September 30, 2022)
 - Exhibit 6 Registration Rights Agreement (incorporated by reference from Exhibit 10.4 of the Issuer's Current Report on Form 8-K dated September 30, 2022)
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CUSIP No. 83422E105

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.

Date: October 4, 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

AGREEMENT

This Joint Filing Agreement, dated as of October 4, 2022, 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 \$0.001 per share of Solid Biosciences 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
