SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G

UNDER THE SECURITIES EXCHANGE ACT OF 1934

(Amendment No. 1)*

Rapid Micro Biosystems, Inc.

(Name of Issuer)

Class A Common Stock, par value $0.01 per share

(Title of Class of Securities)

(CUSIP Number)

06/30/2026

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

☐ Rule 13d-1(b)
☐ Rule 13d-1(c)
☑ Rule 13d-1(d)

SCHEDULE 13G

CUSIP No.

1	Names of Reporting Persons Bain Capital Life Sciences Fund, L.P.
2	Check the appropriate box if a member of a Group (see instructions) ☐ (a) ☐ (b)
3	Sec Use Only
4	Citizenship or Place of Organization CAYMAN ISLANDS

Number of Shares Beneficially Owned by Each Reporting Person With:	5	Sole Voting Power 0.00
	6	Shared Voting Power 7,651,369.00
	7	Sole Dispositive Power 0.00
	8	Shared Dispositive Power 7,651,369.00

9	Aggregate Amount Beneficially Owned by Each Reporting Person 7,651,369.00
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions) ☐
11	Percent of class represented by amount in row (9) 16.76 %
12	Type of Reporting Person (See Instructions) PN

SCHEDULE 13G

CUSIP No.

1	Names of Reporting Persons BCIP Life Sciences Associates, LP
2	Check the appropriate box if a member of a Group (see instructions) ☐ (a) ☐ (b)
3	Sec Use Only
4	Citizenship or Place of Organization DELAWARE

Number of Shares Beneficially Owned by Each Reporting Person With:	5	Sole Voting Power 0.00
	6	Shared Voting Power 783,191.00
	7	Sole Dispositive Power 0.00
	8	Shared Dispositive Power 783,191.00

9	Aggregate Amount Beneficially Owned by Each Reporting Person 783,191.00
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions) ☐

11	Percent of class represented by amount in row (9) 1.72 %
12	Type of Reporting Person (See Instructions) PN

SCHEDULE 13G

Item 1.	
(a)	Name of issuer: Rapid Micro Biosystems, Inc.
(b)	Address of issuer's principal executive offices: 25 Hartwell Avenue, Lexington, Massachusetts 02421
Item 2.	
(a)	Name of person filing: This Schedule 13G is being filed jointly by Bain Capital Life Sciences Fund, L.P., a Cayman Islands exempted limited partnership ("BCLS Fund I"), and BCIP Life Sciences Associates, LP, a Delaware limited partnership ("BCIPLS" and, together with BCLS Fund I, the "Reporting Persons"). Bain Capital Life Sciences Investors, LLC, a Delaware limited liability company ("BCLSI"), is the general partner of Bain Capital Life Sciences Partners, LP, a Cayman Islands exempted limited partnership ("BCLSP"), which is the general partner of BCLS Fund I. Boylston Coinvestors, LLC, a Delaware limited liability company ("Boylston" and, together with the Reporting Persons, BCLSI and BCLSP, the "Bain Capital Life Sciences Entities"), is the general partner of BCIPLS. BCLSI governs the investment strategy and decision-making process with respect to investments held by BCIPLS. As a result, BCLSI may be deemed to share voting and dispositive power with respect to the securities held by the Reporting Persons. The Reporting Persons have entered into a Joint Filing Agreement, dated August 14, 2026, pursuant to which the Reporting Persons have agreed to file this Schedule 13G jointly in accordance with the provisions of Rule 13d-1(k)(1) promulgated under the Act.
(b)	Address or principal business office or, if none, residence: The principal business address for each of the Bain Capital Life Sciences Entities is 200 Clarendon Street, Boston, Massachusetts 02116.
(c)	Citizenship: See Item 2(a) hereof.
(d)	Title of class of securities: Class A Common Stock, par value $0.01 per share
(e)	CUSIP No.:
Item 3.	If this statement is filed pursuant to §§ 240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:
(a)	☐ Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o);
(b)	☐ Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);
(c)	☐ Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);
(d)	☐ Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);
(e)	☐ An investment adviser in accordance with § 240.13d-1(b)(1)(ii)(E);
(f)	☐ An employee benefit plan or endowment fund in accordance with § 240.13d-1(b)(1)(ii)(F);
(g)	☐ A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);
(h)	☐ A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
(i)	☐ A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
(j)	☐ A non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J). If filing as a non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J), please specify the type of institution:
(k)	☐ Group, in accordance with Rule 240.13d-1(b)(1)(ii)(K).

Item 4. Ownership

(a) Amount beneficially owned:

As of the close of business on June 30, 2026, (i) BCLS Fund I held 7,651,369 shares of Class A Common Stock, representing approximately 16.8% of the outstanding shares of Class A Common Stock, (ii) BCIPLS held 783,191 shares of Class A Common Stock, representing approximately 1.7% of the outstanding shares of Class A Common Stock, and (iii) BCLS Investco, LP, whose ultimate general partner is BCLSI, held a Pre-Funded Warrant to purchase up to 1,463,000 shares of Class A Common Stock, a Series A Warrant to purchase up to 1,463,000 shares of Class A Common Stock (or pre-funded warrants in lieu thereof), and a Series B Warrant to purchase up to 1,463,000 shares of Class A Common Stock (or pre-funded warrants in lieu thereof). BCLS Investco, LP is prohibited from exercising the Pre-Funded Warrant, Series A Warrant, or Series B Warrant if, as a result of such exercise, BCLS Investco, LP, together with its affiliates (including the Reporting Persons), would collectively beneficially own more than 9.99% of the total number of shares of Class A Common Stock then issued and outstanding immediately after giving effect to the exercise. Accordingly, pursuant to Rule 13d-3 of the Act and the relationships described herein, BCLS Investco, LP is not deeemed to beneficially own any shares of Class A Common Stock. The calculation of beneficial ownership is based on 45,660,027 shares of Class A Common Stock outstanding as of July 31, 2026, as reported by the Issuer in its Quarterly Report on Form 10-Q for the quarter ended June 30, 2026, filed with the Securities and Exchange Commission on August 7, 2026.

(b) Percent of class:

See Item 4(a) hereof. %

(c) Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote:

0

(ii) Shared power to vote or to direct the vote:

See Item 4(a) hereof.

(iii) Sole power to dispose or to direct the disposition of:

0

(iv) Shared power to dispose or to direct the disposition of:

See Item 4(a) hereof.

Item 5. Ownership of 5 Percent or Less of a Class.

Item 6. Ownership of more than 5 Percent on Behalf of Another Person.

Not Applicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company or Control Person.

Not Applicable

Item 8. Identification and Classification of Members of the Group.

Not Applicable

Item 9. Notice of Dissolution of Group.

Not Applicable

Item 10. Certifications:

Not Applicable

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.

Bain Capital Life Sciences Fund, L.P.

Signature: /s/ Andrew Hack

Name/Title: Andrew Hack, Partner of Bain Capital Life Sciences Investors, LLC

Date:	08/14/2026

BCIP Life Sciences Associates, LP

Signature:	/s/ Andrew Hack
Name/Title:	Andrew Hack, Authorized Signatory of Boylston Coinvestors, LLC
Date:	08/14/2026