

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

SCHEDULE 13D/A

Under the Securities Exchange Act of 1934

(Amendment No. 1)*

Acumen Pharmaceuticals, Inc.

(Name of Issuer)

Common Stock, par value \$0.0001 per share

(Title of Class of Securities)

00509G209

(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)

September 10, 2021

(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
	7	Sole Voting Power 0 shares
Number of Shares Beneficially Owned by Each Reporting Person With	8	Shared Voting Power 9,774,551 shares
	9	Sole Dispositive Power 0 shares
	10	Shared Dispositive Power 9,774,551 shares
	11	Aggregate Amount Beneficially Owned by Each Reporting Person 9,774,551 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) 24.2%¹	
14	Type of Reporting Person (See Instructions) IA, PN	

¹The reporting person is the beneficial owner of 9,774,551 shares of the Issuer's Common Stock which constitute approximately 24.2% of the class outstanding. The percentage calculation assumes that there are currently 40,468,087 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 16, 2021, giving effect to 3,778 shares underlying an option held by Laura Stoppel, a Principal at RA Capital. It does not include 30,222 shares underlying such option, representing the portion thereof that is not vested and will not vest within 60 days from the date of this report.

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
Number of Shares Beneficially Owned by Each Reporting Person With	8	Shared Voting Power 9,774,551 shares
	9	Sole Dispositive Power 0 shares
	10	Shared Dispositive Power 9,774,551 shares
	11	Aggregate Amount Beneficially Owned by Each Reporting Person 9,774,551 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) 24.2%²	
14	Type of Reporting Person (See Instructions) HC, IN	

² The reporting person is the beneficial owner of 9,774,551 shares of the Issuer's Common Stock which constitute approximately 24.2% of the class outstanding. The percentage calculation assumes that there are currently 40,468,087 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 16, 2021, giving effect to 3,778 shares underlying an option held by Laura Stoppel, a Principal at RA Capital. It does not include 30,222 shares underlying such option, representing the portion thereof that is not vested and will not vest within 60 days from the date of this report.

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		
	7	Sole Voting Power	0 shares
Number of Shares Beneficially Owned by Each Reporting Person With	8	Shared Voting Power	9,774,551 shares
	9	Sole Dispositive Power	0 shares
	10	Shared Dispositive Power	9,774,551 shares
	11	Aggregate Amount Beneficially Owned by Each Reporting Person	
	9,774,551 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)		
	24.2%³		
14	Type of Reporting Person (See Instructions)		
	HC, IN		

³ The reporting person is the beneficial owner of 9,774,551 shares of the Issuer's Common Stock which constitute approximately 24.2% of the class outstanding. The percentage calculation assumes that there are currently 40,468,087 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 16, 2021, giving effect to 3,778 shares underlying an option held by Laura Stoppel, a Principal at RA Capital. It does not include 30,222 shares underlying such option, representing the portion thereof that is not vested and will not vest within 60 days from the date of this report.

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):	
	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
Number of Shares Beneficially Owned by Each Reporting Person With	8	Shared Voting Power 7,881,889 shares
	9	Sole Dispositive Power 0 shares
	10	Shared Dispositive Power 7,881,889 shares
	11	Aggregate Amount Beneficially Owned by Each Reporting Person 7,881,889 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) 19.5%⁴	
14	Type of Reporting Person (See Instructions) PN	

⁴The reporting person is the beneficial owner of 7,881,889 shares of the Issuer's Common Stock which constitute approximately 19.5% of the class outstanding. The percentage calculation assumes that there are currently 40,468,087 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 16, 2021.

SCHEDULE 13D

This Amendment No. 1 amends and supplements the statement on Schedule 13D originally filed with the Securities and Exchange Commission (the “SEC”) on July 16, 2021 (the “Statement”) by the Reporting Persons with respect to the Common Stock, \$0.0001 par value (the “Common Stock”), of Acumen Pharmaceuticals, 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 supplemented as follows:

- (a) This Schedule 13D is being filed on behalf of RA Capital Management, L.P. (“ RA Capital”), RA Capital Healthcare Fund, L.P. (the “Fund”), Peter Kolchinsky, and Rajeev Shah. RA Capital, Dr. Kolchinsky, Mr. Shah, and the Fund are collectively referred to herein as the “Reporting Persons.”

The Common Stock reported herein includes 7,881,889 shares held by the Fund, 588,850 shares held in a separately managed account (the “Account”), 1,300,034 shares held by RA Capital Nexus Fund II, L.P. (the “Nexus Fund II”), and 3,778 shares underlying an option held by Laura Stoppel, a Principal at RA Capital. It does not include 30,222 shares underlying such option, representing the portion thereof that is not vested and will not vest within 60 days from the date of this report. 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. 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 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).
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(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 3. Source and Amount of Funds or Other Consideration

Item 3 of the Statement is hereby amended by adding the following:

On June 30, 2021, the Issuer granted to Laura Stoppel, a Principal at RA Capital and a director of the Issuer (“Stoppel”), an option to purchase 34,000 shares of Common Stock pursuant to the Non-Employee Director Compensation Policy (the “June 2021 Option”). The June 2021 Option vests in 36 equal monthly installments subject to Stoppel’s continuous services with the Issuer on each applicable vesting date. Pursuant to an agreement with RA Capital, Stoppel is obligated to transfer any securities issued under such option or other awards, or the economic benefit thereof, to RA Capital.

Item 4. Purpose of Transaction

Item 4 of the Statement is hereby amended by adding the following:

The Reporting Persons acquired the Common Stock referred to in Item 3 for investment purposes and not with an intent, purpose or effect of changing control of the Issuer.

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) and (b) See Items 7-11 of the cover pages and Item 2 above.

(c) On June 30, 2021, the Issuer granted to Stoppel, a Principal at RA Capital and a director of the Issuer, the June 2021 Option. The June 2021 Option vests in 36 equal monthly installments subject to Stoppel’s continuous service with the Issuer on each applicable vesting date, commencing on July 30, 2021, and is exercisable for \$16.00 per share.

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

Item 6 of the Statement is hereby amended by adding the following:

Equity awards

Stoppel, a Principal at RA Capital, is a member of the Board of Directors of the Issuer. From time to time, Stoppel may receive stock options or other awards of equity-based compensation pursuant to the Issuer’s compensation arrangements for non-employee directors. Pursuant to an agreement with RA Capital, Stoppel is obligated to transfer any securities issued under any such stock options or other awards, or the economic benefit thereof, to RA Capital.

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: September 13, 2021

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
