

| OMB APPROVAL | |
|--|-----------|
| OMB Number: | 3235-0287 |
| Estimated average burden hours per response: | 0.5 |

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

| | | |
|--|---|---|
| 1. Name and Address of Reporting Person* <u>RA CAPITAL MANAGEMENT, L.P.</u> (Last) (First) (Middle) <u>200 BERKELEY STREET 18TH FLOOR</u> (Street) <u>BOSTON MA 02116</u> (City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol <u>Acumen Pharmaceuticals, Inc. [ABOS]</u> | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below) |
| | 3. Date of Earliest Transaction (Month/Day/Year) <u>06/06/2023</u> | |
| | 4. If Amendment, Date of Original Filed (Month/Day/Year) | |
| Rule 10b5-1(c) Transaction Indication <input type="checkbox"/> Check this box to indicate that a transaction was made pursuant to a contract, instruction or written plan that is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c). See Instruction 10. | | |

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) | | | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|-------|---|--|---|
| | | | Code | V | Amount | (A) or (D) | Price | | | |

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |
|--|--|--------------------------------------|--|--------------------------------|---|--|-----|---|--|--|---|--|
| | | | | Code | V | (A) | (D) | | | | | |
| Stock Option (Right to Buy) | \$5.2 | 06/06/2023 | | A | | | | Common Stock | \$0.00 | 25,000 | I | See Footnotes ⁽¹⁾⁽²⁾⁽³⁾ |

1. Name and Address of Reporting Person*
RA CAPITAL MANAGEMENT, L.P.
 (Last) (First) (Middle)
200 BERKELEY STREET 18TH FLOOR
 (Street)
BOSTON MA 02116
 (City) (State) (Zip)

1. Name and Address of Reporting Person*
RA Capital Healthcare Fund LP
 (Last) (First) (Middle)
C/O RA CAPITAL MANAGEMENT, L.P.
200 BERKELEY STREET 18TH FLOOR
 (Street)
BOSTON MA 02116
 (City) (State) (Zip)

1. Name and Address of Reporting Person*
RA Capital Nexus Fund II, L.P.
 (Last) (First) (Middle)
C/O RA CAPITAL MANAGEMENT, L.P.
200 BERKELEY STREET 18TH FLOOR

| | | | |
|--|---------|----------|-------|
| (Street) | BOSTON | MA | 02116 |
| (City) | (State) | (Zip) | |
| 1. Name and Address of Reporting Person* | | | |
| Kolchinsky Peter | | | |
| (Last) | (First) | (Middle) | |
| C/O RA CAPITAL MANAGEMENT, L.P. | | | |
| 200 BERKELEY STREET 18TH FLOOR | | | |
| (Street) | BOSTON | MA | 02116 |
| (City) | (State) | (Zip) | |
| 1. Name and Address of Reporting Person* | | | |
| Shah Rajeev M. | | | |
| (Last) | (First) | (Middle) | |
| C/O RA CAPITAL MANAGEMENT, L.P. | | | |
| 200 BERKELEY STREET 18TH FLOOR | | | |
| (Street) | BOSTON | MA | 02116 |
| (City) | (State) | (Zip) | |

Explanation of Responses:

- The shares subject to the option will vest on the earlier of June 6, 2024 or the 2024 annual stockholder meeting, subject to Ms. Stoppel's continuous service through each such vesting date.
- RA Capital Management, L.P. (the "Adviser") is the investment manager for RA Capital Healthcare Fund, L.P. (the "Fund"), RA Capital Nexus Fund II, L.P. (the "Nexus Fund II") and a separately managed account (the "Account"). The general partner of the Adviser is RA Capital Management GP, LLC (the "Adviser GP"), of which Dr. Peter Kolchinsky and Mr. Rajeev Shah are the managing members. The Adviser, the Adviser GP, Dr. Kolchinsky, and Mr. Shah disclaim beneficial ownership of any of the reported securities, except to the extent of their pecuniary interest therein.
- Under Ms. Stoppel's arrangement with the Adviser, Ms. Stoppel holds the option for the benefit of the Fund, the Nexus Fund II and the Account. Ms. Stoppel is obligated to turn over to the Adviser any net cash or stock received upon exercise of the option, which will offset advisory fees owed by the Fund, the Nexus Fund II, and the Account to the Adviser. The Reporting Persons therefore disclaim beneficial ownership of the option and underlying common stock.

Remarks:

Ms. Stoppel, a Principal of the Adviser, serves on the Issuer's board of directors.

/s/ Peter Kolchinsky, Manager
of RA Capital Management, L.P. 06/13/2023

/s/ Peter Kolchinsky, Manager
of RA Capital Healthcare Fund
GP, LLC, the General Partner 06/13/2023
of RA Capital Healthcare Fund,
L.P.

/s/ Peter Kolchinsky, Manager
of RA Capital Nexus Fund II
GP, LLC, the General Partner 06/13/2023
of RA Capital Nexus Fund II,
L.P.

/s/ Peter Kolchinsky,
individually 06/13/2023

/s/ Rajeev Shah, individually 06/13/2023

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.