

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G/A

Under the Securities Exchange Act of 1934
(Amendment No. 4)*

Cabaletta Bio, Inc.
(Name of Issuer)

Voting Common Stock, \$0.00001 par value per share
(Title of Class of Securities)

12674W109
(CUSIP Number)

December 31, 2023
(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)

(Page 1 of 10 Pages)

*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 the disclosures provided in a prior cover page.

The information required in 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).

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| | | |
|--|--|--|
| 1 | NAME OF REPORTING PERSON Adage Capital Partners, L.P. | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP | (a) <input type="checkbox"/> (b) <input type="checkbox"/> |
| 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 |
| | 6 | SHARED VOTING POWER 3,864,475 (including 597,830 shares of Voting Common Stock issuable upon exercise of warrants) |
| | 7 | SOLE DISPOSITIVE POWER 0 |
| | 8 | SHARED DISPOSITIVE POWER 3,864,475 (including 597,830 shares of Voting Common Stock issuable upon exercise of warrants) |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,864,475 (including 597,830 shares of Voting Common Stock issuable upon exercise of warrants) | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES | <input type="checkbox"/> |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 9.47% | |
| 12 | TYPE OF REPORTING PERSON PN | |

| | | |
|--|--|--|
| 1 | NAME OF REPORTING PERSON Adage Capital Partners GP, L.L.C. | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | |
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| 12 | TYPE OF REPORTING PERSON OO | |

| | | |
|--|--|--|
| 1 | NAME OF REPORTING PERSON Adage Capital Management, L.P. | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/> | |
| 3 | SEC USE ONLY | |
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| | | |
|--|--|--|
| 1 | NAME OF REPORTING PERSON Robert Atchinson | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 0 |
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| | | |
|--|--|--|
| 1 | NAME OF REPORTING PERSON Phillip Gross | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 0 |
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Item 1(a). NAME OF ISSUER:
The name of the issuer is Cabaletta Bio, Inc. (the "Company").

Item 1(b). ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES:
The Company's principal executive offices are located at 2929 Arch Street, Suite 600, Philadelphia, Pennsylvania 19104.

Item 2(a). NAME OF PERSON FILING:
This statement is filed by:

- (i) Adage Capital Partners, L.P., a Delaware limited partnership ("ACP") with respect to the shares of Voting Common Stock and the shares of Voting Common Stock issuable upon exercise of warrants directly owned by it;
- (ii) Adage Capital Partners GP, L.L.C., a limited liability company organized under the laws of the State of Delaware ("ACPGP"), as general partner of ACP with respect to the shares of Voting Common Stock and the shares of Voting Common Stock issuable upon exercise of warrants directly owned by ACP;
- (iii) Adage Capital Management, L.P., a Delaware limited partnership ("ACM"), as the investment manager of ACP, with respect to the shares of Voting Common Stock and the shares of Voting Common Stock issuable upon exercise of warrants directly owned by ACP;
- (iv) Robert Atchinson ("Mr. Atchinson"), as (1) managing member of Adage Capital Advisors, L.L.C., a limited liability company organized under the laws of the State of Delaware ("ACA"), managing member of ACPGP and (2) managing member of Adage Capital Partners LLC, a Delaware limited liability company ("ACPLLC"), general partner of ACM, with respect to the shares of Voting Common Stock and the shares of Voting Common Stock issuable upon exercise of warrants directly owned by ACP; and
- (v) Phillip Gross ("Mr. Gross"), as (1) managing member of ACA, managing member of ACPGP and (2) managing member of ACPLLC, general partner of ACM, with respect to the shares of Voting Common Stock and the shares of Voting Common Stock issuable upon exercise of warrants directly owned by ACP.

The foregoing persons are hereinafter sometimes collectively referred to as the "Reporting Persons." Any disclosures herein with respect to persons other than the Reporting Persons are made on information and belief after making inquiry to the appropriate party.

The filing of this statement should not be construed in and of itself as an admission by any Reporting Person as to beneficial ownership of the securities reported herein.

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Item 2(b). ADDRESS OF PRINCIPAL BUSINESS OFFICE OR, IF NONE, RESIDENCE:
The address of the business office of each of the Reporting Persons is 200 Clarendon Street, 52nd Floor, Boston, Massachusetts 02116.

Item 2(c). CITIZENSHIP:
ACP and ACM are limited partnerships organized under the laws of the State of Delaware. ACPGP is a limited liability company organized under the laws of the State of Delaware. Messrs. Gross and Atchinson are citizens of the United States.

Item 2(d). TITLE OF CLASS OF SECURITIES:
Voting Common Stock, \$0.00001 par value per share (the "Voting Common Stock").

Item 2(e). CUSIP NUMBER:
12674W109

Item 3. IF THIS STATEMENT IS FILED PURSUANT TO Rules 13d-1(b), OR 13d-2(b) OR (c), CHECK WHETHER THE PERSON FILING IS A:

- (a) Broker or dealer registered under Section 15 of the Act;
- (b) Bank as defined in Section 3(a)(6) of the Act;
- (c) Insurance company as defined in Section 3(a)(19) of the Act;
- (d) Investment company registered under Section 8 of the Investment Company Act of 1940;
- (e) An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with Rule 13d-1(b)(1)(ii)(F);
- (g) A parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G);
- (h) A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act;
- (i) A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act;
- (j) A non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J);
- (k) Group, in accordance with Rule 13d-1(b)(1)(ii)(K).

If filing as a non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J), please specify the type of institution: Not applicable.

Item 4. OWNERSHIP:
The information required by Items 4(a) – (c) is set forth in Rows (5) – (11) of the cover page for each Reporting Person hereto and is incorporated herein by reference for each such Reporting Person.

The percentage set forth in this Schedule 13G/A is calculated based upon 40,215,874 shares of Voting Common Stock outstanding as of September 30, 2023, as reported in the Company's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2023, filed with the Securities and Exchange Commission on November 9, 2023, and assumes the exercise of the warrants held by ACP.

Item 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS:
Not applicable.

Item 6. OWNERSHIP OF MORE THAN FIVE 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. CERTIFICATION:

Each of the Reporting Persons hereby makes the following certification:

By signing below each Reporting Person certifies that, to the best of his or its knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

After reasonable inquiry and to the best of his or its knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

DATE: February 7, 2024

ADAGE CAPITAL PARTNERS, L.P.
By: Adage Capital Partners GP, L.L.C.,
its general partner

By: Adage Capital Advisors, L.L.C.,
its managing member

/s/ Robert Atchinson
Name: Robert Atchinson
Title: Managing Member

ADAGE CAPITAL PARTNERS GP, L.L.C.
By: Adage Capital Advisors, L.L.C.,
its managing member

/s/ Robert Atchinson
Name: Robert Atchinson
Title: Managing Member

ADAGE CAPITAL MANAGEMENT, L.P.
By: Adage Capital Partners LLC,
its general partner

/s/ Robert Atchinson
Name: Robert Atchinson
Title: Managing Member

/s/ Robert Atchinson
ROBERT ATCHINSON, individually

/s/ Phillip Gross
PHILLIP GROSS, individually