

**PROSPECTUS SUPPLEMENT NO. 2
(TO PROSPECTUS DATED June 19, 2018)**

**Catabasis Pharmaceuticals, Inc.
4,200,000 Common Units, Each Consisting of One Share of Common Stock
and a Warrant to Purchase One Share of Common Stock**

This prospectus supplement No. 2 supplements and amends the prospectus dated June 19, 2018, related to the offer and sale of 4,200,000 common units (each a “Common Unit”) of Catabasis Pharmaceuticals Inc., a Delaware corporation (“we,” “us” or “our”), each Common Unit consisting of one share of our common stock and a warrant to purchase one share of our common stock at an exercise price of \$12.00 per share (each, a “Warrant”), issued to Oppenheimer & Co. Inc., the underwriter named in the prospectus, pursuant to an underwriting agreement dated June 19, 2018 that we entered into with Oppenheimer & Co. Inc., and the offering of the shares of common stock that are issuable from time to time upon exercise of the Warrants.

This prospectus supplement should be read in conjunction with the prospectus dated June 19, 2018, which is to be delivered with this prospectus supplement. This prospectus supplement is qualified by reference to the prospectus except to the extent that the information in this prospectus supplement supersedes the information contained in the prospectus. This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the prospectus, including any amendments or supplements to it.

Our common stock is listed on the Nasdaq Global Market under the symbol “CATB.” On December 31, 2018, the last reported sale price of our common stock on the Nasdaq Global Market was \$4.37 per share.

This prospectus supplement incorporates into our prospectus the information contained in our Current Report on Form 8-K filed with the Securities and Exchange Commission on December 31, 2018, attached hereto.

Investing in our common stock involves risks. See “Risk Factors” beginning on page 11 of the prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the prospectus to which it relates are truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is December 31, 2018.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of report (Date of earliest event reported): **December 28, 2018**

Catabasis Pharmaceuticals, Inc.
(Exact Name of Registrant as Specified in Charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

001-37467
(Commission
File Number)

26-3687168
(IRS Employer
Identification No.)

One Kendall Square
Bldg. 1400E, Suite B14202
Cambridge, Massachusetts
(Address of Principal Executive Offices)

02139
(Zip Code)

Registrant's telephone number, including area code: **(617) 349-1971**

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 3.03. Material Modification to Rights of Security Holders.

The information contained in Item 5.03 below is incorporated by reference into this Item 3.03.

Item 5.03. Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.

On December 28, 2018 (the “Effective Date”), Catabasis Pharmaceuticals, Inc. (the “Company”) filed a Certificate of Amendment to the Company’s Restated Certificate of Incorporation with the Secretary of State of the State of Delaware (the “Certificate of Amendment”), which effected, immediately upon filing, a one-for-ten reverse stock split (the “Reverse Stock Split”) of the Company’s issued and outstanding common stock, \$0.001 par value per share (the “Common Stock”).

As a result of the Reverse Stock Split, every ten shares of Common Stock issued and outstanding was converted into one share of Common Stock. No fractional shares were issued in connection with the Reverse Stock Split. Stockholders who would otherwise be entitled to a fractional share of Common Stock are instead entitled to receive a proportional cash payment.

The Reverse Stock Split did not change the par value of the Common Stock or the authorized number of shares of Common Stock. All outstanding stock options and warrants entitling their holders to purchase shares of Common Stock or acquire shares of Common Stock, as the case may be, were adjusted as a result of the Reverse Stock Split, as required by the terms of these securities.

As previously disclosed in a Current Report on Form 8-K filed on December 14, 2018, at the Company’s Special Meeting of Stockholders held on December 12, 2018, the stockholders of the Company voted to approve the Certificate of Amendment. The Board of Directors of the Company previously approved and authorized the filing of the Certificate of Amendment following its approval by the stockholders.

Trading of the Common Stock on a Reverse Stock Split-adjusted basis began at the opening of trading on December 31, 2018.

The summary of the Certificate of Amendment does not purport to be complete and is qualified in its entirety by reference to the full text of the Certificate of Amendment, a copy of which is attached hereto as Exhibit 3.1 and is incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
3.1	Certificate of Amendment to Restated Certificate of Incorporation of Catabasis Pharmaceuticals, Inc.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

CATABASIS PHARMACEUTICALS, INC.

Date: December 31, 2018

By: /s/ Jill C. Milne
Jill C. Milne
President and Chief Executive Officer

CERTIFICATE OF AMENDMENT
TO
RESTATED CERTIFICATE OF INCORPORATION
OF
CATABASIS PHARMACEUTICALS, INC.

Pursuant to Section 242 of the
General Corporation Law of the State of Delaware

Catabasis Pharmaceuticals, Inc. (hereinafter called the "Corporation"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify as follows:

A resolution was duly adopted by the Board of Directors of the Corporation pursuant to Section 242 of the General Corporation Law of the State of Delaware setting forth an amendment to the Restated Certificate of Incorporation of the Corporation and declaring said amendment to be advisable. The stockholders of the Corporation duly approved and adopted said proposed amendment at a special meeting of stockholders in accordance with Section 242 of the General Corporation Law of the State of Delaware. The resolution setting forth the amendment is as follows:

RESOLVED: That the first sentence of Article FOURTH of the Restated Certificate of Incorporation of the Corporation be and hereby is deleted in its entirety and the following three paragraphs are inserted in lieu thereof:

"FOURTH: That, effective on the filing of this Certificate of Amendment to Restated Certificate of Incorporation with the Secretary of State of the State of Delaware (the "Effective Time"), a one-for-ten reverse stock split of the Corporation's common stock, \$0.001 par value per share (the "Common Stock"), shall become effective, pursuant to which each ten shares of Common Stock outstanding and held of record by each stockholder of the Corporation (including treasury shares) immediately prior to the Effective Time shall be reclassified and combined into one validly issued, fully paid and nonassessable share of Common Stock automatically and without any action by the holder thereof upon the Effective Time and shall represent one share of Common Stock from and after the Effective Time (such reclassification and combination of shares, the "Reverse Stock Split"). The par value of the Common Stock following the Reverse Stock Split shall remain at \$0.001 per share. No fractional shares of Common Stock shall be issued as a result of the Reverse Stock Split and, in lieu thereof, upon surrender after the Effective Time of a certificate or book entry position which formerly represented shares of Common Stock that were issued and outstanding immediately prior to the Effective Time, any person who would otherwise be entitled to

a fractional share of Common Stock as a result of the Reverse Stock Split, following the Effective Time, shall be entitled to receive a cash payment equal to the fraction of a share of Common Stock to which such holder would otherwise be entitled multiplied by the closing price per share of the Common Stock on the Nasdaq Global Market at the close of business on the date of the Effective Time.

Each stock certificate or book entry position that, immediately prior to the Effective Time, represented shares of Common Stock that were issued and outstanding immediately prior to the Effective Time shall, from and after the Effective Time, automatically and without the necessity of presenting the same for exchange, represent that number of whole shares of Common Stock after the Effective Time into which the shares formerly represented by such certificate or book entry position have been reclassified (as well as the right to receive cash in lieu of fractional shares of Common Stock after the Effective Time); provided, however, that each person of record holding a certificate or book entry position that represented shares of Common Stock that were issued and outstanding immediately prior to the Effective Time shall receive, upon surrender of such certificate or book entry position, a new certificate or book entry position evidencing and representing the number of whole shares of Common Stock after the Effective Time into which the shares of Common Stock formerly represented by such certificate or book entry position shall have been reclassified.

The total number of shares of all classes of stock which the Corporation shall have authority to issue is 155,000,000 shares, consisting of (i) 150,000,000 shares of Common Stock, \$0.001 par value per share and (ii) 5,000,000 shares of Preferred Stock, \$0.001 par value per share ("Preferred Stock")."

IN WITNESS WHEREOF, the Corporation has caused its corporate seal to be affixed hereto and this Certificate of Amendment to be signed by its President this 28th day of December, 2018.

CATABASIS PHARMACEUTICALS, INC.

By: /s/ Jill C. Milne
Jill C. Milne, President