

Mirati Therapeutics, Inc.  
Form SC 13G/A  
February 14, 2019

SECURITIES  
AND  
EXCHANGE  
COMMISSION  
Washington,  
D.C. 20549

SCHEDULE  
13G/A

Under the  
Securities  
Exchange Act of  
1934  
(Amendment  
No. 3)\*

Mirati  
Therapeutics,  
Inc.  
(Name of  
Issuer)

Common Stock,  
\$0.001 par value  
(Title of Class  
of Securities)

60468T105  
(CUSIP  
Number)

December 31,  
2018  
(Date of Event  
Which Requires  
Filing of This  
Statement)

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

filed:

þ Rule 13d-1(b)

¨ Rule 13d-1(c)

¨ Rule 13d-1(d)

(Page 1 of 7

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).

|  |  |
|--|--|
| <b>1</b>   | NAME OF REPORTING PERSON                                       |
|  | venBio Select Advisor LLC                                      |
| <b>2</b>   | CHECK THE APPROPRIATE BOX IF A MEMBER (b) 1 OF A GROUP         |
| <b>3</b>   | SEC USE ONLY CITIZENSHIP OR PLACE OF ORGANIZATION              |
|  | Delaware   |
| <b>5</b>   | SOLE VOTING POWER  |
| <b>6</b>   | 4,798,101 SHARED VOTING POWER                                  |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 0  |
| <b>7</b>   | SOLE DISPOSITIVE POWER   |
| <b>8</b>   | 4,798,101 SHARED DISPOSITIVE POWER                             |
| <b>9</b>   | 0 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON |
| <b>10</b>  | 4,798,101 ..   |

**11** CHECK BOX  
IF THE  
AGGREGATE  
AMOUNT IN  
ROW (9)  
EXCLUDES  
CERTAIN  
SHARES  
PERCENT OF  
CLASS  
REPRESENTED BY  
AMOUNT IN ROW  
(9)

**12** 14.76%  
TYPE OF  
REPORTING  
PERSON

OO, IA

|           |   |
|-----------|---|
| <b>1</b>  | NAME OF REPORTING PERSON  |
| <b>2</b>  | Behzad Aghazadeh<br>CHECK THE APPROPRIATE BOX IF A MEMBER (b) (1) OF A GROUP                |
| <b>3</b>  | SEC USE ONLY CITIZENSHIP OR PLACE OF ORGANIZATION   |
| <b>4</b>  | United States   |
| <b>5</b>  | SOLE VOTING POWER   |
| <b>6</b>  | 4,798,101 SHARED VOTING POWER   |
| <b>7</b>  | NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: 0 SOLE DISPOSITIVE POWER |
| <b>8</b>  | 4,798,101 SHARED DISPOSITIVE POWER  |
| <b>9</b>  | 0 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON                              |
| <b>10</b> | 4,798,101 CHECK BOX IF THE  |

**11** AGGREGATE  
AMOUNT IN  
ROW (9)  
EXCLUDES  
CERTAIN  
SHARES  
PERCENT OF  
CLASS  
REPRESENTED BY  
AMOUNT IN ROW  
(9)

**12** 14.76%  
TYPE OF  
REPORTING  
PERSON

IN

CUSIP No. 60468T105 13G/A Page 4 of 7 Pages

**Item 1(a). NAME OF ISSUER**

Mirati Therapeutics, Inc. (the "Issuer")

**Item 1(b). ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES**

9393 Towne Centre Drive, Suite 200, San Diego, California 92121

**Item 2(a). NAME OF PERSON FILING**

This statement is filed by: (i) venBio Select Advisor LLC, a Delaware limited liability company ("venBio"), which provides investment advisory and management services and has acquired the securities of the Issuer solely for investment purposes on behalf of venBio Select Fund LLC, a Delaware limited liability company, and certain managed accounts and (ii) Behzad Aghazadeh ("Dr. Aghazadeh," and together with venBio, the "Reporting Persons"), who serves as the portfolio manager and controlling person of venBio.

The filing of this statement should not be construed as an admission that any Reporting Person is, for purposes of Section 13 of the Act, the beneficial owner of the securities reported herein.

**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 110 Greene Street, Suite 800, New York, NY 10012.

**Item 2(c). CITIZENSHIP**

venBio is a Delaware limited liability company. Dr. Aghazadeh is a United States citizen.

**Item 2(d). TITLE OF CLASS OF SECURITIES**

Common Stock, \$0.001 par value (the "Common Stock")

**Item 2(e). CUSIP NUMBER**

60468T105

**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: \_\_\_\_\_

**Item 4. OWNERSHIP**

The information required by Items 4(a) - (c) is set forth in Rows 5 - 11 of the cover page and is incorporated herein by reference.

The percentage set forth in Row 11 of this Schedule 13G/A is calculated based upon 32,516,041 shares of Common Stock outstanding as of October 29, 2018, as reported in the Issuer's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2018.

**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**

See Item 2. venBio Select Fund LLC has the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, more than 5% of the Common Stock.

**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 Reporting Person hereby makes the following certification:

By signing below the Reporting Person certifies that, to the best of his or its knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and 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.

CUSIP No. 60468T105 13G/APage 7 of 7 Pages

SIGNATURES

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 14, 2019

venBio Select Advisor LLC

/s/ Scott Epstein

Name: Scott Epstein

Title: Chief Financial Officer

& Chief Compliance Officer

/s/ Behzad Aghazadeh

**BEHZAD AGHAZADEH**