

Mirati Therapeutics, Inc.
Form SC 13D
October 31, 2013

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

SCHEDULE 13D

(Rule 13d-102)

**INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT
TO RULE 13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT
TO RULE 13d-2(a)**

(Amendment No. ___)*

Mirati Therapeutics, Inc.

(Name of Issuer)

Common Stock, par value \$0.0001 per share

(Title of Class of Securities)

60468T105

(CUSIP number)

Leo Kirby

667 Madison Avenue, 21st Floor

New York, NY 10065

(212) 339-5633

(Name, address and telephone number of person authorized to receive notices and communications)

October 24, 2013

(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 Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box o.

(Continued on the following pages)

(Page 1 of 15 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 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 or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act.

CUSIP No. 60468T105

NAMES OF REPORTING PERSONS

1

Baker Bros. Advisors LP

13-4093645

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

2

(a)

(b)

3

SEC USE ONLY

SOURCE OF FUNDS (SEE INSTRUCTIONS)

4

OO

CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)

5

..

6

CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

SOLE VOTING POWER

7
2,705,074

SHARED VOTING POWER

8

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY
EACH
REPORTING
PERSON
WITH

SOLE DISPOSITIVE POWER

9
2,705,074

SHARED DISPOSITIVE POWER

10

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

11

2,705,074

CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

12

..

13

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)

19.9% (1)(2)

TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

14

IA

Based on 9,957,725 shares of common stock outstanding as reported in the Issuer's Form 10-Q filed with the SEC (1) on August 13, 2013, plus 3,250,000 shares issued as reported in the Issuer's Form 8-K filed with the SEC on October 24, 2013.

(2) See Item 5 for disclosure regarding limitations of ownership pursuant to the 2016 Warrants (defined below) and the 2017 Warrants (defined below).

CUSIP No. 60468T105

NAMES OF REPORTING PERSONS

1

Baker Bros. Advisors (GP) LLC

46-37147749

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

2

(a)

(b)

3

SEC USE ONLY

SOURCE OF FUNDS (SEE INSTRUCTIONS)

4

OO

CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)

5

..

6

CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

SOLE VOTING POWER

7
2,705,074

SHARED VOTING POWER

8

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY
EACH
REPORTING
PERSON
WITH

SOLE DISPOSITIVE POWER

9
2,705,074

SHARED DISPOSITIVE POWER

10

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

11

2,705,074

CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

12

..

13

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)

19.9% (1)(2)

TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

14

HC

Based on 9,957,725 shares of common stock outstanding as reported in the Issuer's Form 10-Q filed with the SEC (1) on August 13, 2013, plus 3,250,000 shares issued as reported in the Issuer's Form 8-K filed with the SEC on October 24, 2013.

(2) See Item 5 for disclosure regarding limitations of ownership pursuant to the 2016 Warrants (defined below) and the 2017 Warrants (defined below).

CUSIP No. 60468T105

NAMES OF REPORTING PERSONS

1

Felix J. Baker

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

2

(a)

(b)

3

SEC USE ONLY

SOURCE OF FUNDS (SEE INSTRUCTIONS)

4

OO

CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)

5

..

6

CITIZENSHIP OR PLACE OF ORGANIZATION

United States

SOLE VOTING POWER

7

2,705,074 (1)

SHARED VOTING POWER

8

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY
EACH
REPORTING
PERSON
WITH

SOLE DISPOSITIVE POWER

9

2,705,074 (1)

SHARED DISPOSITIVE POWER

10

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

11

2,705,074 (1)

CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

12

..

13

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)

19.9% (1)(2)

TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

14

HC

Based on 9,957,725 shares of common stock outstanding as reported in the Issuer's Form 10-Q filed with the SEC (1) on August 13, 2013, plus 3,250,000 shares issued as reported in the Issuer's Form 8-K filed with the SEC on October 24, 2013.

(2) See Item 5 for disclosure regarding limitations of ownership pursuant to the 2016 Warrants (defined below) and the 2017 Warrants (defined below).

CUSIP No. 60468T105

NAMES OF REPORTING PERSONS

1

Julian C. Baker

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

2

(a)

(b)

3

SEC USE ONLY

SOURCE OF FUNDS (SEE INSTRUCTIONS)

4

OO

CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)

5

..

CITIZENSHIP OR PLACE OF ORGANIZATION

6

United States

SOLE VOTING POWER

7

2,705,074 (1)

SHARED VOTING POWER

8

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY
EACH
REPORTING
PERSON
WITH

SOLE DISPOSITIVE POWER

9

2,705,074 (1)

SHARED DISPOSITIVE POWER

10

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

11

2,705,074 (1)

CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

12

..

13

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)

19.9% (1)(2)

TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

14

IN, HC

Based on 9,957,725 shares of common stock outstanding as reported in the Issuer's Form 10-Q filed with the SEC (1) on August 13, 2013, plus 3,250,000 shares issued as reported in the Issuer's Form 8-K filed with the SEC on October 24, 2013.

(2) See Item 5 for disclosure regarding limitations of ownership pursuant to the 2016 Warrants (defined below) and the 2017 Warrants (defined below).

\

Schedule 13D

ITEM 1. Security and Issuer.

The class of equity security to which this statement on Schedule 13D relates is the common stock, par value \$0.0001 per share (the "Common Stock") of Mirati Therapeutics, Inc., a corporation organized under the laws of the state of Delaware (the "Issuer"). The address of the principal executive offices of the Issuer is 9363 Towne Centre Drive, San Diego, California 92121. Information given in response to each item shall be deemed incorporated by reference in all other items, as applicable.

ITEM 2. Identity and Background.

(a) The Reporting Persons are:

1. Felix J. Baker; and
2. Julian C. Baker
3. Baker Bros. Advisors LP (the "Adviser")
4. Baker Bros. Advisors (GP) LLC (the "Adviser GP")

(b) The business address of each of the Reporting Persons is:

c/o Baker Bros. Advisors LP

667 Madison Avenue, 21st Floor

New York, NY 10065

(212) 339-5633

(c) The Adviser is an entity engaged in investment activities, and the Adviser GP is in the business of acting as its sole general partner and, through the Adviser, investment activities. The principal business of each of Julian C. Baker and Felix J. Baker is to serve as a managing member of the Adviser GP.

Certain securities of the Issuer are owned directly by 667, L.P. (“667”), a limited partnership the sole general partner of which is Baker Biotech Capital, L.P., a limited partnership the sole general partner of which is Baker Biotech Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of Baker Biotech Capital (GP), LLC.

Certain securities of the Issuer are owned directly by Baker Brothers Life Sciences, L.P. (“Life Sciences”), a limited partnership the sole general partner of which is Baker Brothers Life Sciences Capital, L.P., a limited partnership the sole general partner of which is Baker Brothers Life Sciences Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of Baker Brothers Life Sciences Capital (GP), LLC.

Certain securities of the Issuer are owned directly by 14159, L.P. (“14159”), a limited partnership the sole general partner of which is 14159 Capital, L.P., a limited partnership the sole general partner of which is 14159 Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of 14159 Capital (GP), LLC.

Certain securities of the Issuer are owned directly by Baker Bros. Investments II, L.P. (“Bros II,” and together with 667, Life Sciences and 14159, the “Funds”), a limited partnership the sole general partner of which is Baker Bros. Capital, L.P., a limited partnership the sole general partner of which is Baker Bros. Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of Baker Bros. Capital (GP), LLC.

On July 1, 2013, the Adviser, each of the Funds and the general partners of the Funds entered into an amended and restated management agreement which gave the Adviser complete and unlimited discretion and authority with respect to the Funds’ investments and voting power over investments. The general partners of the Funds relinquished all discretion and authority with respect to the Funds’ investments and voting power over investments.

(d) and (e) During the past five years, none of the Reporting Persons nor any of the Funds has been (i) convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) or (ii) 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 or 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) The Adviser GP is a limited liability company organized under the laws of the State of Delaware. The Adviser is a limited partnership organized under the laws of the State of Delaware. The citizenship of each of Julian C. Baker and Felix J. Baker is the United States of America.

Item 3. Source and Amount of Funds or Other Consideration

The disclosure regarding the purchase of Common Stock pursuant to the Offering (as defined below) in Item 4 is incorporated by reference herein.

Item 4. Purpose of the Transaction.

On October 23, 2013, the Issuer entered into an underwriting agreement (the “Underwriting Agreement”) with Jefferies LLC and Leerink Swann LLC, as representatives of the several underwriters listed on Schedule A thereto (the “Underwriters”), related to a public offering (the “Offering”) of 3,250,000 shares of the Issuer’s common stock at a price to the public of \$17.50 per share. In addition, the Issuer granted the Underwriters an option exercisable for 30 days from the date of the Underwriting Agreement to purchase, at the public offering price less any underwriting discounts and commissions, up to an additional 487,500 shares of common stock to cover overallotments, if any. The Offering closed on October 29, 2013.

Pursuant to the Offering, on October 24, 2013, 667, Life Sciences and 14159 purchased 44,314, 346,965 and 8,721 shares of the Issuer’s common stock, respectively, at the offering price of \$17.50 per share, totaling 400,000 shares in the aggregate. Each of 667, Life Sciences and 14159 purchased the shares of the Issuer’s common stock with their working capital.

The Reporting Persons may also be deemed to beneficially own 313,756 warrants to purchase shares of common stock at CAD7.46 with an expiration date of April 5, 2016 (“2016 Warrants”) and 280,266 warrants to purchase shares of common stock at CAD8.70 with an expiration date of November 21, 2017 (“2017 Warrants”). The 2016 Warrants and the 2017 Warrants each include standard adjustment provisions for stock splits, stock dividends, mergers,

recapitalizations and the like as well as a cashless exercise feature.

As a result of certain purchases of Common Stock made by the Funds, subject to certain limitations, the Funds have pre-emptive rights with respect to any proposed future issuances of the Issuer's securities. In the event that the Issuer proposes to issue any class or series of our equity securities, any voting securities, or any securities convertible or exchangeable into, or entitling purchase of, any of the foregoing, the Issuer must provide written notice to the Funds specifying the terms and conditions of the proposed issue. After the receipt of the Issuer's notice, the Funds may subscribe for up to their pro rata share of offered securities, which share is calculated in proportion to the aggregate holding of securities by each Fund in relation to the total number of securities issued and outstanding immediately prior to the issuance of offered securities. Also, the Funds have a right to acquire any offered securities that are subject to the pre-emptive rights but which are not otherwise purchased by another eligible investor pursuant to such pre-emptive rights. The pre-emptive rights continue until November 12, 2016.

The Funds hold the securities for investment purposes. Whether the Reporting Persons or their affiliates purchase any additional securities or dispose of any securities, and the amount and timing of any such transactions, will depend upon the Reporting Persons' continuing assessments of pertinent factors, including the availability of shares of Common Stock or other securities for purchase at particular price levels, the business and prospects of the Issuer, other business investment opportunities, economic conditions, stock market conditions, money market conditions, the attitudes and actions of the board of directors and management of the Issuer, the availability and nature of opportunities to dispose of shares in the Issuer and other plans and requirements of the particular entities.

As of date of filing of this Schedule, the Reporting Persons and/or their affiliates have had discussions with management regarding the operation of the Issuer. The Reporting Persons and/or their affiliates may have discussions with management regarding items of mutual interest, which could include items in subparagraphs (a) through (j) of Item 4 of Schedule 13D. Additionally, the reporting persons have a representative acting as a board observer of the Issuer and have a right to nominate one person to the Board of Directors of the Issuer, subject to certain limitations.

Depending upon their assessments of the above factors from time to time, the Reporting Persons or their affiliates may change their present intentions as stated above, including assessing whether to continue to engage management of the Issuer. and whether to acquire additional securities of the Issuer, including shares of Common Stock (by means of open market purchases, privately negotiated purchases, exercise of some or all of the 2016 Warrants and/ or 2017 Warrants, or otherwise) or to dispose of some or all of the securities of the Issuer, including shares of Common Stock, under their control.

Except as otherwise disclosed herein, at the present time, the Reporting Persons do not have any plans or proposals with respect to any extraordinary corporate transaction involving the Issuer including, without limitation, those matters described in subparagraphs (a) through (j) of Item 4 of Schedule 13D.

ITEM 5. Interest in Securities of the Issuer.

(a) and (b) Items 7 through 11 and 13 of each of the cover pages of this Schedule are incorporated herein by reference. Set forth below is the aggregate number of shares of Common Stock of the Issuer directly held by each of the Funds, which may be deemed to be indirectly beneficially owned by the Reporting Persons, as well as shares of Common Stock that may be acquired upon exercise of the Issuer's 2016 Warrants and the Issuer's 2017 Warrants by the Funds, subject to the limitations on exercise described below.

Holder	Shares of Common Stock	2016 Warrants	2017 Warrants
Baker Bros. Investments II, L.P. 667, L.P.	- 125,869	274 -	- 24,467
Baker Brothers Life Sciences, L.P. 14159, L.P.	2,213,897 40,308	310,003 3,479	249,802 5,997
Total	2,380,074	313,756	280,266

Pursuant to the terms of the 2016 Warrants, the Issuer shall not affect any exercise of the 2016 Warrants, and the holder shall not have the right to exercise any portion of the 2016 Warrant, to the extent that after giving effect to such exercise, the holder (together with the holders affiliate) would beneficially own in excess of 19.9% of the Common Shares outstanding immediately after giving effect to such exercise. As a result of this restriction, the number of shares that may be issued upon exercise of the 2016 Warrants by the above holders may change depending upon changes in the outstanding shares of Common Stock.

Pursuant to the terms of the 2017 Warrants, the holder shall not have the right to exercise any portion of the 2017 Warrant to the extent that after giving effect to such exercise, the Holder would beneficially own in excess of 19.99% of the Common Shares. As a result of this restriction, the number of shares that may be issued upon exercise of the 2017 Warrants by the above holders may change depending upon changes in the outstanding shares of Common Stock.

The limitations on ownership pursuant to the 2016 Warrants and the 2017 Warrants described above are based on beneficial ownership under Quebec securities regulations. To the extent that the beneficial ownership regulations of Quebec differ from the beneficial ownership regulations under the U.S. federal securities laws and the Reporting Persons are deemed to be beneficial owners of all of the Common Stock underlying the 2016 Warrants and the 2017 Warrants, the reporting persons would be deemed to beneficially own 21.6% of the Issuer's Common Stock.

(c) The disclosure regarding the purchase of Common Stock pursuant to the Offering described in Item 4 is incorporated by reference herein. Except as described in this Schedule, none of the Reporting Persons has effected any transaction in the securities of the Issuer in the past 60 days.

(d) The disclosure regarding the securities owned directly by 667, Life Sciences, 14159 and Bros II in Item 2 is incorporated by reference herein.

(e) Not applicable.

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

The disclosure regarding the 2016 warrants and 2017 warrants in Item 4 is incorporated by reference herein.

Item 7. Material to Be Filed as Exhibits.

Exhibit	Description
----------------	--------------------

99.1	Agreement Regarding the Joint Filing of Schedule 13D by and among the Reporting Persons
------	---

SIGNATURES

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

EXECUTED as a sealed instrument this 30th day of October, 2013

**BAKER BROS.
ADVISORS LP**

By: Baker Bros. Advisors
(GP) LLC, its general
partner

By: /s/ Scott L. Lessing
Name: Scott L. Lessing
Title: President

**BAKER BROS.
ADVISORS (GP) LLC**

By: /s/ Scott L. Lessing
Name: Scott L. Lessing
Title: President

/s/ Julian C. Baker
Julian C. Baker

/s/ Felix J. Baker
Felix J. Baker