

bluebird bio, Inc.
Form 4
January 17, 2014

FORM 4

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

OMB APPROVAL

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
THIRD ROCK VENTURES LP

(Last) (First) (Middle)

29 NEWBURY STREET, 3RD FLOOR

(Street)

BOSTON, MA 02116

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol
bluebird bio, Inc. [BLUE]

3. Date of Earliest Transaction (Month/Day/Year)
01/10/2014

4. If Amendment, Date Original Filed(Month/Day/Year)

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

___ Director ___X___ 10% Owner
___ Officer (give title below) ___ Other (specify below)

6. Individual or Joint/Group Filing(Check Applicable Line)
___ Form filed by One Reporting Person
X Form filed by More than One Reporting Person

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 Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|-----------------------------------|
| | | | Code | V | Amount | Price | |
| Common Stock | 01/15/2014 | | S | | 260,000 | D 22.14 | 2,713,974 D (2) |
| | | | | | | \$(1) | |
| Common Stock | 01/16/2014 | | S | | 33,000 | D 24.02 | 2,680,974 D (2) |
| | | | | | | \$(3) | |
| Common Stock | 01/17/2014 | | S | | 14,000 | D 23.96 | 2,666,974 D (2) |
| | | | | | | \$(4) | |

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

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 control number.

SEC 1474
(9-02)

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) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | 7. Title and Amount of Underlying Securities (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of Derivative Securities Beneficially Owned Following Reported Transaction (Instr. 3) |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--|---|
| | | | | Code | V (A) (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|---------|-------|
| | Director | 10% Owner | Officer | Other |
| THIRD ROCK VENTURES LP 29 NEWBURY STREET, 3RD FLOOR BOSTON, MA 02116 | | X | | |
| Third Rock Ventures GP, L.P. 29 NEWBURY STREET, 3RD FLOOR BOSTON, MA 02116 | | X | | |
| TRV GP, LLC 29 NEWBURY STREET, 3RD FLOOR BOSTON, MA 02116 | | X | | |

Signatures

/s/ Kevin Gillis, Chief Financial Officer of TRV GP, LLC, general partner of Third Rock Ventures GP, L.P., general partner of Third Rock Ventures, L.P. 01/17/2014
 __Signature of Reporting Person Date

/s/ Kevin Gillis, Chief Financial Officer of TRV GP, LLC, general partner of Third Rock Ventures GP, L.P. 01/17/2014
 __Signature of Reporting Person Date

/s/ Kevin Gillis, Chief Financial Officer of TRV GP, LLC 01/17/2014
 __Signature of Reporting Person Date

Explanation of Responses:

* 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).

(1) The price reported in Column 4 is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$22.00 to \$22.650, inclusive. Each Reporting Person undertakes to provide to bluebird bio Inc., any security holder of bluebird bio Inc., or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the range set forth in this footnote.

(2) The shares are directly held by TRV. The general partner of TRV is Third Rock Ventures GP, L.P. ("TRV GP"). The general partner of TRV GP is TRV GP, LLC ("TRV GP LLC") and, as such, each of TRV GP and TRV GP LLC exercises shared voting and investment power over the shares held of record by TRV. Each of the filing persons disclaims beneficial ownership of the shares except to the extent of their pecuniary interest therein, if any.

(3) The price reported in Column 4 is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$24.00 to \$24.125, inclusive. Each Reporting Person undertakes to provide to bluebird bio Inc., any security holder of bluebird bio Inc., or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the range set forth in this footnote.

(4) The price reported in Column 4 is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$23.80 to \$24.36, inclusive. Each Reporting Person undertakes to provide to bluebird bio Inc., any security holder of bluebird bio Inc., or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the range set forth in this footnote.

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

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