

bluebird bio, Inc.  
Form 4  
January 17, 2014

**FORM 4**

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

OMB APPROVAL

OMB Number: 3235-0287  
Expires: January 31, 2015  
Estimated average burden hours per response... 0.5

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 \*  
**TEPPER ROBERT I**

(Last) (First) (Middle)

**C/O THIRD ROCK VENTURES,  
LLC, 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)  
**01/15/2014**

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

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

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

6. Individual or Joint/Group Filing(Check Applicable Line)

Form filed by One Reporting Person  
 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 Indirect Beneficial Ownership (Instr. 4)
Common Stock	01/15/2014		S	260,000 D	\$ 22.14 (1) 2,713,974	I	See footnote (2)
Common Stock	01/16/2014		S	33,000 D	\$ 24.02 (3) 2,680,974	I	See footnote (2)
Common Stock	01/17/2014		S	14,000 D	\$ 23.96 (4) 2,666,974	I	See footnote (2)

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

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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 (Instr. 5)
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## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
TEPPER ROBERT I C/O THIRD ROCK VENTURES, LLC 29 NEWBURY STREET, 3RD FLOOR BOSTON, MA 02116	X	X		

## Signatures

/s/ Robert I. Tepper,  
M.D. 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. The 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 the Reporting Person is a Manager of TRV GP LLC, as such, each of TRV GP and TRV GP LLC and the Reporting Person exercises shared voting and investment power over the shares held of record by TRV. The Reporting Person disclaims beneficial ownership of the shares except to the extent of his pecuniary interest therein, if any.

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(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. The 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. The 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.