FORM 4

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

☐

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

1. Name and Address of Reporting Person*	2. Issuer Name **and** Ticker or Trading Symbol	5. Relationship of Reporting Person(s) to Issuer

1. Name and Address of Reporting Person*

Leschly Nick

| (Last) | (First) | (Middle) |

C/O BLUEBIRD BIO, INC., 150 SECOND STREET

(Street)

CAMBRIDGE MA   02141

| (City) | (State) | (Zip) |

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

3. Date of Earliest Transaction (Month/Day/Year)
03/03/2014

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

5. Relationship of Reporting Person(s) to Issuer
(Check all applicable)

X   Director   10% Owner

X   Officer (give title below)   Other (specify below)

President and CEO

6. Individual or Joint/Group Filing (Check Applicable Line)
X 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)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	03/03/2014		S(1)		5,000	D	$ 24.79 (2)	314,318	D	

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(s) (Instr. 4)	10. Ownership Form of Derivative Security: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Stock Option (right to buy)	$ 24.47	03/03/2014		A		165,000		(3)	03/03/2024	Common Stock	165,000	$ 0	165,000	D	

Explanation of Responses:

1. The sales reported in this Form 4 were effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on October 15, 2013.

2. The range of prices for the transaction reported on this line was $24.05 to $25.40. The average weighted price was $24.785. The reporting person will provide, upon request by the SEC, the issuer or a security holder of the issuer, full information regarding the number of shares sold at each separate price.

3. This option vests over a four-year period, at a rate of twenty-five percent (25%) on January 1, 2015 and in 36 equal monthly installments thereafter.

/s/ Linda C. Bain, Attorney-in-Fact   03/05/2014

** Signature of Reporting Person   Date

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

* 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).

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

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 Number.