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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): May 2, 2017

bluebird bio, Inc.
(Exact name of Registrant as Specified in Its Charter)

DELAWARE	001-35966	13-3680878
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)
60 Binney Street, Cambridge, MA (Address of Principal Executive Offices)		02142 (Zip Code)

Registrant's Telephone Number, Including Area Code: (339) 499-9300

150 Second Street, Cambridge, MA 02141
(Former Name or Former Address, if Changed Since Last Report)

Indicate by check mark whether the registrant is an emerging growth company as defined in as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instructions A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 8.01 Other Events

On May 2, 2017, bluebird bio, Inc. ("bluebird") issued two press releases announcing that it has entered into separate worldwide license agreements with respect to its proprietary lentiviral vector platform.

The full text of the press releases are filed as Exhibits 99.1 and 99.2 to this Current Report on Form 8-K and are incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press release issued by bluebird bio, Inc. on May 2, 2017.
99.2	Press release issued by bluebird bio, Inc. on May 2, 2017.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: May 2, 2017

bluebird bio, Inc.

By:/s/ Jason F. Cole
Jason F. Cole
Chief Legal Officer

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press release issued by bluebird bio, Inc. on May 2, 2017.
99.2	Press release issued by bluebird bio, Inc. on May 2, 2017.

Exhibit 99.1

bluebird bio Enters Lentiviral Vector Patent License Agreement with GlaxoSmithKline for Commercialization of Gene Therapies

Cambridge, Mass., May 2, 2017 -- bluebird bio, Inc. (Nasdaq: BLUE) today announced that it has entered into a worldwide license agreement around its proprietary lentiviral vector platform with GlaxoSmithKline Intellectual Property Development Limited (GSK).

"bluebird bio's work has been integral to the progress of lentiviral vector-based cell and gene therapy; over the past six years, we have taken the incredible potential of our lentiviral vector platform and successfully applied it to our own clinical gene therapy and oncology programs," said Philip Gregory, D.Phil., chief scientific officer, bluebird bio. "We are pleased that our agreement with GSK now allows us to facilitate the work of others striving to develop transformational therapies for patients with rare genetic diseases."

Under the terms of the agreement, GSK will non-exclusively license certain bluebird patent rights related to lentiviral vector technology to develop and commercialize gene therapies for Wiscott-Aldrich syndrome and metachromatic leukodystrophy, two rare genetic diseases. Financial terms of the agreement include an upfront payment to bluebird as well as potential development and regulatory milestone payments and low single digit royalties on net sales of covered products.

About bluebird bio, Inc.

With its lentiviral-based gene therapies, T cell immunotherapy expertise and gene editing capabilities, bluebird bio has built an integrated product platform with broad potential application to severe genetic diseases and cancer. bluebird bio's gene therapy clinical programs include its Lenti-D™ product candidate, currently in a Phase 2/3 study, called the Starbeam Study, for the treatment of cerebral adrenoleukodystrophy, and its LentiGlobin™ product candidate, currently in four clinical studies for the treatment of

transfusion-dependent β-thalassemia, and severe sickle cell disease. bluebird bio's oncology pipeline is built upon the company's leadership in lentiviral gene delivery and T cell engineering, with a focus on developing novel T cell-based immunotherapies, including chimeric antigen receptor (CAR T) and T cell receptor (TCR) therapies. bluebird bio's lead oncology program, bb2121, is an anti-BCMA CAR T program partnered with Celgene. bb2121 is currently being studied in a Phase 1 trial for the treatment of relapsed/refractory multiple myeloma. bluebird bio also has discovery research programs utilizing megaTAL/homing endonuclease gene editing technologies with the potential for use across the company's pipeline.

bluebird bio has operations in Cambridge, Massachusetts and Seattle, Washington.

Forward-Looking Statements

This release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding the Company's license agreements with third parties and our licensee's product candidates, as well as the advancement of, and anticipated development and regulatory milestones and plans related to the Company's product candidates and clinical studies. Any forward-looking statements are based on management's current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, risks that the product candidates of our licensees are not successfully developed, approved or commercialized, risks that the preliminary results from our clinical trials will not continue or be repeated in our ongoing clinical trials, the risk of cessation or delay of any of the ongoing or planned clinical studies and/or our development of our product candidates, risks that the current or planned clinical trials of the LentiGlobin drug product will be insufficient to support regulatory submissions or marketing approval in the United States and European Union, and the risk that any one or more of our product candidates will not be successfully developed, approved or commercialized. For a discussion of other risks and uncertainties, and other important factors, any of which could cause our actual results to differ from those

contained in the forward-looking statements, see the section entitled "Risk Factors" in our most recent annual report on Form 10-K, as well as discussions of potential risks, uncertainties, and other important factors in our subsequent filings with the Securities and Exchange Commission. All information in this press release is as of the date of the release, and bluebird bio undertakes no duty to update this information unless required by law.

Contact:
Investors:
bluebird bio, Inc.
Manisha Pai, 617-245-2107
mpai@bluebirdbio.com

Media:
bluebird bio, Inc.
Elizabeth Pingpank, 617-914-8736
epingpank@bluebirdbio.com

Exhibit 99.2

bluebird bio Licenses Lentiviral Vector Patent Rights for Development and Commercialization of Cell Therapies

Cambridge, Mass., May 2, 2017 -- bluebird bio, Inc. (Nasdaq: BLUE) today announced that it has entered into a worldwide license agreement around its proprietary lentiviral vector platform with Novartis Pharma AG.

"bluebird bio is a pioneer in the field of lentiviral vector-based cell and gene therapy, and our partnerships and licensing agreements have been crucial to our success since our early days. We have continued to build upon our intellectual property, applying the incredible potential of lentiviral vectors to both our ongoing clinical gene therapy and immuno-oncology programs," said Jeff Walsh, chief financial and strategy officer, bluebird bio. "Our agreement with Novartis is a testament to our leadership in the field, and allows us to facilitate the efforts of others working to develop transformational therapies for patients."

Under the terms of the agreement with Novartis, Novartis will non-exclusively license certain bluebird patent rights related to lentiviral vector technology to develop and commercialize chimeric antigen receptor T cell (CAR T) therapies for oncology, including CTL019, Novartis's anti-CD19 CAR T investigational therapy.

Financial terms of the agreement include an upfront payment to bluebird as well as milestone and royalty payments.

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that any one or more of our product candidates will not be successfully developed, approved or commercialized. For a discussion of other risks and uncertainties, and other important factors, any of which could cause our actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in our most recent annual report on Form 10-K, as well as discussions of potential risks, uncertainties, and other important factors in our subsequent filings with the Securities and Exchange Commission. All information in this press release is as of the date of the release, and bluebird bio undertakes no duty to update this information unless required by law.

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bluebird bio, Inc.
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