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): December 7, 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

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

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))

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. ☐

Item 8.01 Other Events

On December 7, 2017, bluebird bio, Inc. and TC BioPharm Limited issued a joint press release announcing that the parties have entered into a strategic research collaboration and license agreement focused on gamma delta CAR T cells. The full text of the press release regarding the announcement is filed as Exhibit 99.1 to this Current Report on Form 8-K and is 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 December 7, 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: December 7, 2017

bluebird bio, Inc.

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

Exhibit 99.1

bluebird bio and TC BioPharm Announce Strategic Collaboration to Research and Develop Gamma Delta CAR T Cell Product Candidates for Cancer Immunotherapy

– Deal combines TC BioPharm's leading gamma delta T Cell capabilities with bluebird's proven expertise in all stages of CAR T and gene therapy product development to discover and develop next-generation liquid and solid tumor product candidates –

Cambridge, MA and Edinburgh, Scotland, December 7, 2017 – bluebird bio, Inc. (Nasdaq: BLUE) and Scottish immunotherapy company TC BioPharm, Ltd. (TCB) today announced a strategic collaboration and license agreement focused on gamma delta CAR T cells. The companies will work together to advance TC BioPharm's lead CAR-engineered gamma delta T cell program into clinical trials as well as on additional hematologic and solid tumor targets.

"Emerging research suggests that gamma delta T cells may constitute a powerful platform for CAR T cell therapies," said Philip Gregory, D.Phil., chief scientific officer, bluebird bio. "TCB is a leader in the gamma delta T cell field, with extensive capabilities spanning early research, clinical development and manufacturing. The combination with our deep expertise in CAR T cell biology, translational and clinical experience with leading CAR T cell drug products, and powerful gene therapy toolbox, offers a high degree of synergy. This partnership aims to help realize the full potential of the gamma delta T cell platform to bring novel and transformative therapies to cancer patients with high unmet medical need."

Commenting on the partnership with bluebird bio, TCB's chief executive - Michael Leek, PhD, said, "We are delighted to be working alongside bluebird bio to discover and develop next-generation CAR T cell therapies based on our innovative ImmuniCAR® platform. Both companies share the same dynamic culture, passion and drive, spearheaded by an overwhelming desire to treat cancer patients – with the potential to dramatically improve each individual's prognosis and quality of life."

"We believe our gamma delta T cell platform has broad therapeutic potential," added Artin Moussavi, PhD, chief business officer of TC BioPharm. "The collaboration with bluebird bio, a leader in cell and gene therapy, recognizes the enormous potential of ImmuniCAR® to deliver life-changing medicines."

"bluebird bio is leveraging its industry-leading toolbox of advanced cell and gene therapy technologies to accelerate immuno-oncology targets from concept to clinic," said Joanne Smith-Farrell, bluebird's senior vice president, corporate development and strategy. "The agreement with TCB complements bluebird bio's growing immuno-oncology development program, which includes clinical and pre-clinical CAR T and T Cell Receptor programs that leverage bluebird bio's leading translational research and deep vector technology expertise to rapidly accelerate from target identification to clinical development."

Under the terms of the agreement, bluebird bio and TCB will collaborate to discover and develop CAR-engineered gamma delta T cells for cancer targets and indications. TCB is responsible for development of all targets through Phase 1/2, at which point bluebird has the exclusive option to assume sole responsibility for further clinical development and commercialization on a global basis.

Financial terms of the agreement include a $16 million upfront payment and subsequent potential R&D and commercial milestone payments. The Company is also eligible to receive undisclosed tiered royalties on product sales.

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® BB305 product candidate, currently in three clinical studies for the treatment of transfusion-dependent β-thalassemia, also known as β-thalassemia major, 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 programs, bb2121 and bb21217, are anti-BCMA CAR T programs partnered with Celgene. bb2121 and bb21217 are each currently being studied in Phase 1 trials for the treatment of relapsed/refractory multiple myeloma. bluebird bio also has discovery research programs utilizing megaTALs/homing endonuclease gene editing technologies with the potential for use across the company's pipeline.

bluebird bio has operations in Cambridge, Massachusetts, Seattle, Washington, Durham, North Carolina and Europe.

LentiGlobin and Lenti-D are trademarks of bluebird bio, Inc.

About TC BioPharm
Headquartered in Edinburgh with facilities in Glasgow, London and Kawasaki, TCB is a clinical stage biotechnology company leading the way gamma delta T cells are being used to treat cancer and serious viral disease. TCB has strategic collaborations with pharmaceutical, biotechnology and leading research institutions bringing its transformative cell therapies to clinic. In January 2015, TCB's cell therapy manufacturing facility at Maxim Office Park in Glasgow was awarded a Manufacturer's Authorisation for Investigational Medicinal Products MIA (IMP) which permits manufacture and release of Advanced Therapy Medicinal Products (ATMPs) for use in clinical trials.

TCB has developed a novel gamma-delta CAR T platform (ImmuniCAR®) where T cells are supercharged using gene-therapy to target and kill specific cancer types. ImmuniCAR® represents a truly disruptive, step-changing approach to the treatment of a wide variety of cancers with potential to overcome many of the safety problems previously seen with

conventional early-generation CAR T products. TCB is developing CAR T products against a range of cancer antigens with the potential to target both solid and blood tumors.

ImmuniCAR is a trademark of TC BioPharm, Ltd.

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 research, development and advancement of bluebird bio's product candidates and immuno-oncology research program, including its own CAR T and TCR research programs and those shared with TC BioPharm. 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, the risk that the research programs for these targets will be unsuccessful and not identify any viable product candidates, the risk that our collaboration with TC BioPharm will not continue or will not be successful, the risk of cessation or delay of any planned clinical studies and/or our development of our product candidates, and the risk that any one or more of our product candidates will not be successfully developed and 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 Form 10-Q, 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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