bluebird bio and Inhibrx Announce Collaboration to Research, Develop and Commercialize CAR T Cell Immunotherapies

CAMBRIDGE, Mass and SAN DIEGO, Calif. – January 7, 2019 – bluebird bio, Inc. (Nasdaq: BLUE) and Inhibrx, Inc. (Inhibrx) today announced that they have entered into an exclusive license agreement to research, develop and commercialize chimeric antigen receptor (CAR) T cell therapies using Inhibrx's proprietary single domain antibody (sdAb) platform to multiple cancer targets. The small size of sdAbs may enable the generation of more complex CAR T cell products such as those designed to combine additional functions into a single CAR molecule or recognize multiple tumor antigens simultaneously.

"Access to the Inhibrx sdAb binder technology will allow us to combine the advancements we've made with our T cell therapy platform with their sdAb binder technology to generate novel cellular therapies with the potential to help patients in their fight against cancer," said Philip Gregory, D. Phil., chief scientific officer, bluebird bio. "The technology from Inhibrx adds to our growing portfolio of tools and technologies that we can combine with our internal lentiviral vector, CAR and T cell expertise to discover potential new product candidates designed to recognize tumor-specific proteins expressed by cancer cells and kill them upon engagement."

"We are pleased to have formalized our relationship with bluebird bio, allowing us to couple our proprietary sdAb platform with a leading cell therapy platform," said Brendan Eckelman, Chief Scientific Officer and Executive Vice President of Corporate Strategy of Inhibrx. "Together with bluebird bio, we have generated compelling proof of concept preclinical data on the utility of incorporating our sdAbs into bluebird bio's constructs for CAR-T cell generation."

Under the terms of the license agreement, Inhibrx will provide bluebird bio the exclusive worldwide rights to develop, manufacture and commercialize certain cell therapy products containing sdAbs directed to various cancer targets. bluebird bio will be responsible for the clinical development and commercialization of the cancer-targeting CAR-T products. Inhibrx received a $7.0 million upfront payment and is also entitled to receive specified developmental milestone payments as well as percentage tiered royalties on future product sales.

About Inhibrx, Inc.

Inhibrx is a clinical-stage biotechnology company focused on developing a broad pipeline of novel biologic therapeutic candidates. Inhibrx utilizes diverse methods of protein engineering to address the specific requirements of complex target and disease biology, including its proprietary sdAb platform. The Inhibrx pipeline is focused on oncology, orphan diseases and infectious diseases. Inhibrx has a collaboration with Celgene and has received awards from several granting agencies, including NIH, NIAID and CARB-X. For more information, please visit www.inhibrx.com.

About bluebird bio, Inc.

With its lentiviral-based gene therapies, T cell immunotherapy expertise and gene editing capabilities, bluebird bio has built a pipeline with broad potential application in severe genetic diseases and cancer.

bluebird bio's gene therapy clinical programs include investigational treatments for cerebral adrenoleukodystrophy, transfusion-dependent β-thalassemia and sickle cell disease.

bluebird bio's oncology pipeline is built upon the company's 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. The company's lead oncology programs are anti-BCMA CAR T programs partnered with Celgene.

bluebird bio's discovery research programs include utilizing megaTAL/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 Zug, Switzerland. For more information, visit bluebirdbio.com.

Follow bluebird bio on social media: @bluebirdbio, LinkedIn, Instagram, YouTube.

bluebird bio 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 potential product candidates and research program, and the benefits of each company's strategic plans and focus. 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 or using the technology licensed from Inhibrx will be unsuccessful and not result in any viable product candidates, the risk that our collaboration with Inhibrx 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 quarterly report on 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.

Inhibrx Forward-Looking Statements

Certain statements in this press release are forward looking statements that involve a number of risks and uncertainties. These statements include statements about Inhibrx's strategy, therapeutic candidates, including its sdAb platform. These statements represent Inhibrx's judgements and expectations as of the date of this release. Actual results may differ due to a number of factors, including, but not limited to, the potential success and efficacy of Inhibrx's therapeutic candidates. Inhibrx disclaims any intent or obligation to update these forward looking statements, other than as may be required by applicable law.

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