



Synlogic Presents Data from Immuno-Oncology Development Program Demonstrating Potent Anti-Tumor Immunity Following Administration of Novel STING Agonist-producing Synthetic Biotic™ Medicine

February 13, 2018

- Data presented at Keystone Symposium demonstrate rapid tumor rejection in preclinical models -
- Data support advancement of Synthetic Biotic medicines as potential immuno-therapies for cancer -

CAMBRIDGE, Mass.--(BUSINESS WIRE)--Feb. 13, 2018-- Synlogic ([Nasdaq: SYBX](https://www.nasdaq.com/markets/stocks/symbols/SYBX)), a clinical-stage company applying synthetic biology to probiotics to develop novel living medicines, announced the presentation of positive preclinical data from its Synthetic Biotic immuno-oncology (IO) program at the Keystone Symposium *Lymphocytes and their Roles in Cancer*. The meeting is being held jointly with a related session, *Emerging Cellular Therapies T-cells and Beyond*, from February 11 to 15, 2018.

"These data provide compelling, early scientific evidence supporting the development of our Synthetic Biotic medicines as potential novel immunotherapeutic agents for the treatment of various cancers," said J.C. Gutiérrez-Ramos, Ph.D., Synlogic's president and chief executive officer. "The results demonstrate that we can design Synthetic Biotic medicines that dramatically modulate the tumor microenvironment, by generating potent and efficacious antitumor immunity, turning what is known as a "cold" tumor "hot" and resulting in greatly enhanced response rates. Our Synthetic Biotic medicines can be administered by intratumoral injection enabling achievement of these beneficial effects locally and without systemic toxicity. Moreover, we can engineer additional activities into this new class of living medicines that enhance and sustain the anti-tumor response. In the coming year we intend to advance these IO program candidates into IND-enabling studies."

The data presented at the meeting demonstrate the antitumor effects of treatment with a probiotic strain of *E.coli* engineered to produce inducible levels of STING (STimulator of INterferon Genes) agonist (SYN-STING). The STING pathway plays a critical role in the control of tumor growth at both steady state and following a variety of cytolytic and immune-based therapies. SYN-STING can be delivered directly into the tumor enabling its localized site of action in the tumor microenvironment. The approach of using intra-tumoral injection elicits innate responses in the tumor but not in the circulation, decreasing the risk of adverse events that may arise from the production of systemic interferon.

Specifically, the data demonstrated that the production of ci-di-AMP by SYN-STING results in the local upregulation of interferon beta by macrophages and dendritic cells *in vitro*, and the rapid rejection of established B16F10 tumors *in vivo*. Treatment results in an early rise in a variety of potent cytokines, including interferon beta, followed by the activation of effector T cells in the tumor-draining lymph nodes and upregulation of molecules associated with a cytolytic T cell response in the tumor. Taken together, these data demonstrate the ability of Synthetic Biotic medicines to dramatically modulate the tumor microenvironment, generating potent and efficacious antitumor immunity.

About Synthetic Biotic Medicines

Synlogic's innovative new class of Synthetic Biotic medicines leverages the tools and principles of synthetic biology to genetically engineer probiotic microbes to perform or deliver critical functions missing or damaged due to disease. The company's two lead programs target a group of rare metabolic diseases – inborn errors of metabolism (IEM). Patients with these diseases are born with a faulty gene, inhibiting the body's ability to break down commonly occurring by-products of digestion that then accumulate to toxic levels and cause serious health consequences. When delivered orally, these medicines can act from the gut to compensate for the dysfunctional metabolic pathway and have a systemic effect. Synthetic Biotic medicines are designed to clear toxic metabolites associated with specific metabolic diseases and have the potential to significantly improve symptoms of disease for affected patients.

About Synlogic

Synlogic is pioneering the development of a novel class of living medicines, Synthetic Biotic medicines, based on its proprietary drug development platform. Synlogic's initial pipeline includes Synthetic Biotic medicines for the treatment of rare genetic diseases, such as urea cycle disorders (UCD) and phenylketonuria (PKU). In addition, the company is leveraging the broad potential of its platform to create Synthetic Biotic medicines for the treatment of more common diseases, including liver disease, inflammatory and immune disorders, and cancer. Synlogic is collaborating with AbbVie to develop Synthetic Biotic-based treatments for inflammatory bowel disease (IBD). For more information, please visit www.synlogictx.com.

Forward-Looking Statements

This press release contains "forward-looking statements" that involve substantial risks and uncertainties for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this press release regarding strategy, future operations, future financial position, future revenue, projected expenses, prospects, plans and objectives of management are forward-looking statements. In addition, when or if used in this press release, the words "may," "could," "should," "anticipate," "believe," "estimate," "expect," "intend," "plan," "predict" and similar expressions and their variants, as they relate to Synlogic may identify forward-looking statements. Examples of forward-looking statements, include, but are not limited to, statements regarding the potential of Synlogic's platform to develop therapeutics to address a wide range of diseases including: cancer, inflammatory and immune disorders, and inborn errors of metabolism; the future clinical development of Synthetic Biotic medicines; the approach Synlogic is taking to discover and develop novel therapeutics using synthetic biology; the potential of Synlogic's technology to treat urea cycle disorders and phenylketonuria; and the advancement of our collaborations. Actual results could differ materially from those contained in any forward-looking statement as a result of various factors, including: the uncertainties inherent in the preclinical

development process; the ability of Synlogic to protect its intellectual property rights; and legislative, regulatory, political and economic developments, as well as those risks identified under the heading "Risk Factors" in Synlogic's filings with the SEC. The forward-looking statements contained in this press release reflect Synlogic's current views with respect to future events. Synlogic anticipates that subsequent events and developments will cause its views to change. However, while Synlogic may elect to update these forward-looking statements in the future, Synlogic specifically disclaims any obligation to do so. These forward-looking statements should not be relied upon as representing Synlogic's view as of any date subsequent to the date hereof.

View source version on businesswire.com: <http://www.businesswire.com/news/home/20180213005511/en/>

Source: Synlogic

Synlogic

MEDIA CONTACT:

Courtney Heath, 617-872-2462

courtney@scientpr.com

or

INVESTOR CONTACT:

Elizabeth Wolffe, Ph.D., 617-207-5509

liz@synlogictx.com