# Synlogic Presents Preclinical Data from First Synthetic BioticTM Clinical Candidate in Immuno-Oncology at the Society for Immunotherapy of Cancer's (SITC) 33rd Annual Meeting

November 6, 2018

*– Data highlight the differential advantages of Synthetic Biotic approach designed to activate the local innate immune system for the potential treatment of a variety of solid tumors –*

*– Company will webcast Investor and Analyst event at 12:30 pm ET, Saturday, November 10, 2018, to discuss supporting preclinical data and outline future clinical development plans –*

CAMBRIDGE, Mass.--(BUSINESS WIRE)--Nov. 6, 2018-- Synlogic, Inc. (Nasdaq: SYBX), a clinical-stage drug discovery and development company applying synthetic biology to beneficial microbes to develop novel living medicines, today announced the presentation of preclinical data from its first immuno-oncology (IO) program at the 33rd Annual Meeting & Pre-Conference Programs of the Society for Immunotherapy of Cancer (SITC 2018). Synlogic's first Synthetic Biotic clinical candidate (SYNB1891) is designed to induce the production of type I interferon (IFN) through dual activation of innate immune pathways. Data that will be presented at SITC 2018 demonstrate that SYNB1891 generated significant anti-tumor activity, systemic immunity and long-term immunological memory in mouse tumor models. The data highlight the advantages of SYNB1891 for the potential treatment of cancers that are resistant to current immunotherapy approaches.

"Our goal is to design Synthetic Biotic medicines that enable us to expand the benefits of immunotherapy broadly across tumor types," said Aoife Brennan, M.B., Ch. B., Synlogic's president and chief executive officer. "Tumors have multiple mechanisms to evade the immune system and our Synthetic Biotic platform is uniquely suited to address this area of unmet medical need given our ability to engineer multiple mechanisms in a single biotic. We are excited to move this first program into the clinic."

"Our Synthetic Biotic drug candidate, SYNB1891, enabled dual activation of the innate immune system via both the bacterial chassis and its STING agonist payload in mouse tumor models," said Jose Lora, Ph.D., Synlogic's vice president of research. "We have engineered a non-pathogenic bacterial strain to deliver immunostimulatory molecules directly into the tumor microenvironment, which has the potential to induce a local immune response and establish systemic immunity while minimizing systemic toxicity."

In a presentation, *Development of a STING Agonist-producing Synthetic Biotic™ Medicine to Activate Innate and Adaptive Immunity and Drive Antitumor Immune Responses,* to be given at the SITC 33rd Annual Meeting on Friday, November 9, 2018, Synlogic scientists will describe an engineered strain of *E. coli* Nissle, (SYNB1891) that produces cyclic di-AMP (CDA) which stimulates the STING pathway. Recent studies have demonstrated that activation of the **ST**imulator of **IN**terferon **G**enes (STING) pathway can play a critical role in the initiation of an anti-tumor immune response via activation of antigen presenting cells (APCs) and presentation of tumor antigens. SYNB1891 can be delivered directly into the tumor where it remains active for several days to stimulate a local immune response. When the bacteria are engulfed by APCs within the tumor, the STING pathway is activated within the cell resulting in a type I IFN response. In addition, the bacterial chassis used in Synlogic's Synthetic Biotic approach is believed to be able to stimulate the innate immune system by several other mechanisms, including via Toll-like receptors (TLRs), potentially adding to the magnitude of the overall immune response.

In preclinical studies that will be presented at SITC 2018, Synlogic has demonstrated that:

- *In vitro*, SYNB1891 produces biologically-relevant levels of CDA, activating both mouse and human APCs
- In a reporter assay, SYNB1891 induced production of higher levels of type I IFN protein compared to naked CDA, and in human primary APCs SYNB1891 treatment resulted in significantly higher expression of genes encoding type I IFN-beta and IL-6, when compared to naked STING-agonist treatment
- Treatment with the un-engineered *E. coli* Nissle (SYNB) alone resulted in increased tumoral innate cytokine levels and anti-tumor activity, demonstrating that the bacterial chassis itself triggers complementary innate immunity pathways which are further potentiated by arming the bacteria with STING agonist
- SYNB1891 prototype-treated tumors demonstrate upregulation of an inflammation-related gene signature
- SYNB1891 prototype treatment of B16.F10 melanoma tumors resulted in an early rise in innate-immune cytokines and at later times resulted in T cell activation in tumors and tumor-draining lymph nodes
- These pharmacodynamic changes correlated with robust anti-tumor responses and complete tumor regressions
- Mice that exhibited complete regression of tumors in response to SYNB1891 prototype treatment demonstrated long-term immunological memory when re-challenged with tumor cells >40 days post tumor eradication

**Investor and Analyst Event Details**

On Saturday, November 10, 2018, at the SITC 33rd Annual meeting in Washington D.C., Synlogic will also host an Investor and Analyst Event. The program will feature commentary from experts Filip Janku, M.D., Ph.D., Associate Professor in the Department of Investigational Cancer Therapeutics

and Center Medical Director for the Clinical and Translational Research Center at MD Anderson Cancer Center, and Dmitriy Zamarin, M.D., Ph.D., Assistant Attending Physician in Gynecologic Medical Oncology and Immunotherapeutics Services at the Memorial Sloan Kettering Cancer Center who will discuss the unmet medical need and current landscape in immuno-oncology, as well as company representatives who will outline Synlogic's plans for clinical development of its clinical candidate, SYNB1891.

Presentations will begin at 12:30 pm, until 2:00 pm. ET, on Saturday, November 10, 2018.

The event will be webcast live and available via a link on the company's website in the *Events Calendar* in the Investors and Media section.

**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 leverages the tools and principles of synthetic biology to genetically engineer beneficial microbes to perform or deliver critical functions missing or damaged due to disease. Synthetic Biotic medicines are designed to act locally and have a systemic effect to address disease in patients. Synlogic's two lead programs, SYNB1020 and SYNB1618, are orally administered and target hyperammonemia as a result of liver damage or genetic disease, and phenylketonuria, respectively. Synlogic is also developing SYNB1891 as an intratumorally administered Synthetic Biotic medicine for the treatment of cancer. In addition, the company is leveraging the broad potential of its platform to create additional Synthetic Biotic medicines for the treatment of liver disease, as well as inflammatory and immune disorders including Synlogic's collaboration 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, inborn errors of metabolism, liver disease, and inflammatory and immune disorders; 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 cancer, hyperammonemia, and phenylketonuria. 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.

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