



Synlogic Announces Nature Communications Publication Highlighting Use of Synthetic Biotic Platform to Optimize Therapies for Phenylketonuria

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CAMBRIDGE, Mass., Oct. 28, 2021 /PRNewswire/ -- Synlogic, Inc. (Nasdaq: SYBX), a clinical stage company bringing the transformative potential of synthetic biology to medicine, today announced a publication in *Nature Communications* documenting the engineering of a more potent phenylalanine (Phe)-degrading investigational Synthetic Biotic™ medicine for the treatment of phenylketonuria (PKU).

The paper, "*Improvement of a synthetic live bacterial therapeutic for phenylketonuria with biosensor-enabled enzyme engineering*," illustrates how SYN1934 was generated through whole cell optimization of the Phe-metabolizing enzyme phenylalanine ammonia lyase (PAL). The process involved a combination of directed evolution and high throughput screening libraries of mutated PAL enzymes. Using this technology over 1 million PAL enzymes were screened and an optimized PAL enzyme was used to engineer SYN1934. This work was performed through a collaboration between Synlogic and Zymergen. As reported in the paper, using established strain-specific biomarkers of Phe metabolism, in preclinical studies SYN1934 has shown an approximately two-fold increase in PAL activity compared to SYN1618, Synlogic's first generation strain for PKU. This two-fold increase in PAL activity has subsequently been confirmed in a Phase 1 study of healthy volunteers.

SYN1934 is currently being evaluated in the Phase 2 SynPheny-1 study in adult patients with classical PKU, and results are expected in the first half of 2022.


"This research illustrates the capabilities of our team and platform to rapidly generate optimized strains of synthetic biotics for the potential treatment of PKU and other metabolic disorders," said David Hava, Ph.D., Chief Scientific Officer at Synlogic. "The SYN1934 Phase 1 study produced data highly consistent with our preclinical findings, reinforcing the translational capability of the platform. We look forward to the upcoming results of our Phase 2 patient study of SYN1934 and the advancement of our PKU program into late stage clinical development."

About Synlogic

Synlogic™ is bringing the transformative potential of synthetic biology to medicine. With a premier synthetic biology platform that leverages a reproducible, modular approach to microbial engineering, Synlogic designs Synthetic Biotic medicines that target validated underlying biology to treat disease in new ways. Synlogic's proprietary pipeline includes Synthetic Biotics for the treatment of metabolic disorders including Phenylketonuria (PKU) and Enteric Hyperoxaluria. The company is also building a portfolio of partner-able assets in immunology and oncology.

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, clinical development plans, 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, metabolic diseases, 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 expected timing of Synlogic's clinical trials and availability of clinical trial data. 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 clinical and 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 Securities and Exchange Commission. 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 could 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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Media Contact: Bill Berry, Berry & Company Public Relations, Phone: 212-253-8881, Email: bberry@berrypr.com; Investor Contact: Daniel Rosan, Synlogic, Inc., Phone: 617-401-9152, Email: dan.rosan@synlogictx.com