Intrexon and Synthetic Biologics Enter ECC to Develop Novel Biotherapeutics for Treatment of Phenylketonuria

Collaboration Targets Delivery of an Essential Enzyme via ActoBiotics™ Platform without Adverse Impact on Gut Microbiome

GERMANTOWN, Md. and ROCKVILLE, Md., Aug. 10, 2015 /PRNewswire/ -- Intrexon Corporation (NYSE:XON), a leader in synthetic biology, and Synthetic Biologics, Inc. (NYSE MKT: SYN), a clinical-stage company focused on developing therapeutics to protect the microbiome while targeting pathogen-specific diseases, today announced an Exclusive Channel Collaboration (ECC) to pursue the development and commercialization of novel biotherapeutics for the treatment of patients with phenylketonuria (PKU), a serious and debilitating metabolic disorder. Through the ECC, the companies plan to utilize Intrexon's ActoBiotics™ platform providing a proprietary method of delivering therapeutic protein and peptides to the gastrointestinal (GI) tract through food-grade microbes.

"We are excited to build on our existing relationship with Intrexon through this new collaboration," commented Jeffrey Riley, Chief Executive Officer, of Synthetic Biologics. "We believe a biotherapeutics-based approach has great potential to provide relief for patients managing this devastating disease and an opportunity to improve upon current therapies that rely on constant dietary monitoring and drugs to increase phenylalanine breakdown. The development of these biotherapeutics expands our pipeline of products targeted for release in the GI tract without adverse impact on the natural balance of the patient's gut microbiome."

PKU is a genetic disease that begins at birth characterized by a deficiency in the liver enzyme that breaks down the essential amino acid phenylalanine (Phe), a building block of proteins normally obtained through the foods we eat. As a result, Phe accumulates in the body, becoming toxic and leading to serious health consequences, including profound mental retardation, brain damage, mental illness, behavioral problems, seizures, tremors, limited cognitive ability and hyperactivity. If left untreated, the most severe form of PKU leads to permanent cognitive damage. PKU affects more than 14,000 people in the U.S. and an estimated 50,000 people across developed nations globally. There is no existing cure for PKU, requiring patients to maintain a life-long treatment program and carefully controlled diet.

Samuel Broder, M.D., Senior Vice President and Head of Intrexon's Health Sector, said, "The goal of our collaboration is for our ActoBiotics™ program to deliver a key enzyme to facilitate the breakdown of phenylalanine and thereby prevent the toxicity in these patients." Dr. Broder added, "We are very pleased that Intrexon's suite of complementary technologies and proprietary industrial processes will facilitate our ECC partner, Synthetic Biologics, in the development of new therapies for PKU."

About Synthetic Biologics, Inc.

Synthetic Biologics, Inc. (NYSE MKT: SYN) is a microbe-focused, clinical-stage company developing therapeutics to protect the microbiome while targeting pathogen-specific diseases. The Company's lead candidates in Phase 2 development include SYN-004 which is designed to protect the gut microbiome from the effects of certain commonly used intravenous (IV) antibiotics for the prevention of C. difficile infection and antibiotic-associated diarrhea (AAD), and SYN-010 which is intended to reduce the impact of methane producing organisms in the gut microbiome to treat the underlying cause of irritable bowel syndrome with constipation (IBS-C). In addition, the Company is developing a Phase 2 oral estriol drug for the treatment of relapsing-remitting multiple sclerosis (MS)
and cognitive dysfunction in MS, and in collaboration with Intrexon Corporation (NYSE: XON), a monoclonal antibody combination for the treatment of Pertussis and biotherapeutics for the treatment of phenylketonuria (PKU). For more information, please visit Synthetic Biologics’ website at www.syntheticbiologics.com.

About Intrexon Corporation

Intrexon Corporation (NYSE: XON) is Powering the Bioindustrial Revolution with Better DNA™ to create biologically-based products that improve the quality of life and the health of the planet. The Company’s integrated technology suite provides its partners across diverse markets with industrial-scale design and development of complex biological systems delivering unprecedented control, quality, function, and performance of living cells. We call our synthetic biology approach Better DNA®, and we invite you to discover more at www.dna.com.

Trademarks

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Safe Harbor Statement

Some of the statements made in this press release are forward-looking statements. In some cases forward-looking statements can be identified by terminology such as "may," "should," "potential," "continue," "expects," "anticipates," "intends," "plans," "believes," "estimates," and similar expressions. These statements are based upon current beliefs, expectations and assumptions and are subject to a number of risks and uncertainties, many of which are difficult to predict and include statements regarding the plans to utilize Intrexon’s ActoBiotics™ platform to provide a proprietary method of delivering therapeutic protein and peptides to the gastrointestinal tract through food-grade microbes and the potential of a biotherapeutics-based approach, in particular using Intrexon’s ActoBiotics™ platform, to provide relief for patients managing PKU. These forward-looking statements are based upon our current expectations and projections about future events and generally relate to our plans, objectives and expectations for the development of our business. Although management believes that the plans and objectives reflected in or suggested by these forward-looking statements are reasonable, all forward-looking statements involve risks and uncertainties and actual future results may be materially different from the plans, objectives and expectations expressed in this press release.