May 6, 2014

Synthetic Genomics Inc. Signs Collaborative Research and Development Agreement with Lung Biotechnology Inc., a Subsidiary of United Therapeutics Corporation, to Develop Humanized Pig Organs to Revolutionize Transplantation Field

Lung Biotechnology Also Makes $50M Equity Investment in SGI

LA JOLLA, Calif. and SILVER SPRING, Md., May 6, 2014 /PRNewswire/ -- Synthetic Genomics Inc. (SGI), a privately held company developing and commercializing genomic driven advancements in a variety of industries, and Lung Biotechnology Inc., a subsidiary of United Therapeutics Corporation (NASDAQ: UTHR), today announced they have entered into a multi-year research and development agreement to develop humanized pig organs using synthetic genomic advances. The collaboration will focus upon developing organs for human patients in need of transplantation, with an initial focus on lung diseases. As part of the agreement SGI will receive royalties and milestone incentives from the development and commercialization of the organs.

SGI is also announcing a $50 million equity investment by Lung Biotechnology. Additional financial details were not disclosed.

"We are pleased to be partnering with Lung Biotechnology and United Therapeutics to advance organ transplantation," said J. Craig Venter, Ph.D., Founder and CEO, SGI. "We believe that our proprietary synthetic genomic tools and technologies, coupled with United Therapeutics' knowledge and advances in regenerative medicine technologies and treatment of lung diseases, should enable us to develop humanized pig organs for safe and effective transplant into humans. We believe this is one of the most exciting and important programs ever undertaken in modern medical science."

Martine Rothblatt, Ph.D., United Therapeutics Chairman and CEO, added, "Our new collaboration with Synthetic Genomics is huge for accelerating our efforts to cure end-stage lung disease. Our combined expertise should enable us to develop an unlimited supply of transplantable organs, potentially helping millions of patients who die from end-stage organ disease."

Using unique DNA design, DNA synthesis and genome editing, as well as genome modification tools, SGI will develop engineered primary pig cells with modified genomes. This work will entail modification of a substantial number of genes at an unprecedented scale and efficiency. United Therapeutics will leverage its xenotransplantation expertise to implant these engineered cells, generating pig embryos which develop and are born with humanized lungs. With the science and technology advances made by the SGI team in recent years, the companies are striving to develop these new methods and advances to create organs that are safe and effective for use in humans.

In the United States alone, about 400,000 people die annually from various forms of lung disease including cancer, but scarcely 2,000 people are saved with a lung transplant and only about 2,000 are added to the transplant wait list annually. Not even 1% of deaths due to lung failure can be avoided due to the gross shortage of transplantable human lungs. Previous attempts to rectify this shortage with animal organs have failed due to genomic incompatibilities, especially with respect to immune and coagulation systems. The collaboration between Synthetic Genomics and Lung Biotechnology aims to eliminate these genomic incompatibilities.

About Synthetic Genomics Inc. (SGI)

SGI is a privately-held company dedicated to developing and commercializing genomic-driven solutions to address a wide range of global challenges. The company is focused on several key commercialization programs including: developing new synthetic DNA products and technologies through its subsidiary, SGI-DNA; algae biofuels and new and improved food and nutritional products through its subsidiary Genovia Bio; and synthetically-derived vaccine development through Synthetic Genomic Vaccines Inc. (SGVI), a business unit co-founded with the J. Craig Venter Institute. The company is also developing clean water technologies using microbial fuel cells and is developing sustainable agricultural products through AgraCast, a company co-founded with Plenus S.A. de C.V. For more information go to: www.syntheticgenomics.com.

About United Therapeutics

United Therapeutics Corporation is a biotechnology company focused on the development and commercialization of unique products to address the unmet medical needs of patients with chronic and life-threatening conditions. The company is developing several technologies to increase the availability of transplantable lungs for patients. [uthr-g]

Forward Looking Statements

Statements included in this press release that are not historical in nature are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include, among others, expectations regarding the outcome of the collaborative efforts among Lung Biotechnology, United Therapeutics and Synthetic Genomics, including the expectations regarding milestone and royalty payments, and the ability of these companies to successfully develop humanized pig organs that are safe and effective for transplantation. These forward-looking statements are subject to certain risks and uncertainties, such as those described in United Therapeutics' periodic reports filed with the Securities and Exchange Commission, that could cause actual results to differ materially from anticipated results. Consequently, such forward-looking statements are qualified by the cautionary statements, cautionary language and risk factors set forth in United Therapeutics' periodic reports and documents filed with the Securities and Exchange Commission, including its most recent Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K. United Therapeutics claims the protection of the safe harbor contained in the Private Securities Litigation Reform Act of 1995 for forward-looking statements. This information is being provided as of May 6, 2014, and neither United Therapeutics nor Synthetic Genomics assumes any obligation to update or revise the information contained in this press release whether as a result of new information, future events or any other reason.

SOURCE United Therapeutics Corporation; Synthetic Genomics Inc.