

Codagenix Inc. Receives Phase I SBIR Grant from US Department of Agriculture to Develop Swine Influenza Vaccine

Farmingdale, New York, August 3, 2015 – Codagenix, Inc., a clinical stage, venture and public sector funded small business, announced today that it has been awarded a \$99,710 Phase I Small Business Innovation Research (SBIR) grant from the United States Department of Agriculture (USDA) to commence the development of an influenza vaccine for swine. Codagenix will apply its next-generation platform technology to construct a vaccine against influenza viruses that infect swine, which, according to the USDA's 2014 Census of Agriculture is a \$22.5 billion industry here in the United States. Swine Influenza Virus is a threat to the swine industry, which can slow swine growth and damage sales of pork products because of perceived danger, as happened with the 2009 "Swine Flu" pandemic which cost the U.S. pork industry over \$5 million per day in lost revenue.

The SBIR program, a highly competitive grant program that provides non-dilutive funds for research and development to small US businesses, is meant to encourage commercialization of innovative technologies. "Codagenix's next-generation approach to make vaccines is exactly the kind of technology the SBIR program is designed to support," commented Rep. Peter King, adding "There is clearly a need for vaccines to protect both our public health and economic interests and we are proud to have Codagenix leading the charge here on Long Island."

"Through the SBIR grant, Codagenix will have a better ability to advance their research and development in pursuit of vaccines against both human and agricultural viruses. Safeguarding our nation's agriculture and advancing research and technology on Long Island is important for our community and Codagenix recognizes that need," remarked Rep. Lee Zeldin.

"Codagenix is developing a vaccine platform technology that has significant market potential as well as clear societal benefit, and we are pleased to support their technology development and commercialization efforts" said Diane Fabel, Director of the Long Island Bioscience Hub.

"Codagenix will develop a highly cross-protective, live-attenuated Swine Influenza vaccine. The goal of the vaccine is to safeguard against the economic impact of Swine Influenza on the swine industry and importantly, to reduce the use of antibiotics in swine," commented Dr. J. Robert Coleman, Chief Operating Officer of Codagenix. Based on their highly encouraging pre-clinical success developing an Influenza vaccine for human testing, Codagenix is leveraging their vaccine development platform to construct a vaccine that protects swine against influenza.

"Current commercial Swine Influenza vaccines still use an inactivated-virus, akin to the 'flu-shot' used for people," explained Dr. Steffen Mueller, Codagenix's Chief Scientific Officer. "Using an inactivated virus requires continual vaccine updating each season and, as we know, this leads to strain mismatching and low efficacy. Our goal is to make a vaccine that won't require updating each year; but rather one that can provide multi-season protection."

“Commercially, we’re excited to expand into the agriculture space because it’s a quicker path to market, as compared to producing vaccines for human diseases,” said Dr. Coleman. Codagenix plans to construct vaccine strains against Swine Influenza and have them ready for field tests within 18 months.

About Codagenix

Codagenix Inc., a biotechnology company on Long Island, New York, is developing live attenuated vaccines using a "disruptive" software-based rational design algorithm that is unlike previous vaccine "platforms". By leveraging the redundancy in the genetic code (various codons exist at the gene level to encode the same amino acid at the protein level), the Codagenix algorithm re-structures viral genomes into a sub-optimal genetic code. The so-called “deoptimized” viruses have resulted in highly attenuated vaccine strains that are effective at greatly reduced doses, because they present every antigen of the pathogen, while being 100% identical to the target pathogen at the protein level. The Codagenix pipeline of vaccines includes Influenza, respiratory syncytial virus (RSV), Dengue, foot-and-mouth disease virus (FMDV), pathogenic E. coli, and other pathogens.

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