



Vivaldi Biosciences Signs Cooperative Research and Development Agreement (CRADA) with National Institute of Allergy and Infectious Diseases (NIAID) to Develop Live Attenuated Influenza Vaccine Against Influenza H7N9

January 21, 2014

Fort Collins, CO – Vivaldi Biosciences Inc., a clinical-stage biotechnology company developing live attenuated influenza vaccines (LAIVs) against seasonal and pandemic influenza, today announced that it has signed a Cooperative Research and Development Agreement (CRADA) with the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH), to generate and evaluate in preclinical studies LAIV candidates against influenza A(H7N9). The H7N9 strain is of concern due to its pandemic potential. Human cases of this avian-origin influenza strain were first recognized in early 2013.

Vivaldi's LAIV technology platform uses the biology of the influenza nonstructural protein 1 (NS1) to provide a new vaccine approach with the potential for superior efficacy and protection. NS1 is a multifunctional virulence factor of the influenza virus. Vivaldi uses proprietary reverse genetics and plasmid rescue technologies to modify the NS1 gene, generating replication-deficient LAIVs attenuated for safety and able to produce a potent, protective immune response.

Research under the CRADA will use Vivaldi's LAIV master strain, which incorporates a specifically truncated NS1 gene and other attenuating genes. The Vivaldi and NIAID teams jointly will select, clone and manipulate H7N9 genes for insertion into Vivaldi's master strain to generate candidate LAIVs against influenza H7N9. Vivaldi and NIAID together will conduct *in vitro* and *in vivo* evaluations of the candidate LAIVs, including studies of safety, immunogenicity and protective efficacy in animal models, and will carry out Good Laboratory Practices (GLP) toxicology evaluations of the candidate LAIVs. Data generated in the program are expected to support the filing of an Investigational New Drug (IND) application for a Phase 1 clinical trial in volunteers.

"We are pleased that NIAID has taken an active interest in Vivaldi's NS1-based LAIV platform and reverse genetics technologies by collaborating with the company on this important program for pandemic preparedness. We look forward to working with Dr. Kanta Subbarao and her team at NIAID's Laboratory of Infectious Diseases," said Douglass B. Given, MD, PhD, President and CEO of Vivaldi. "Promising activity and a favorable safety profile have been demonstrated in a Phase 1 study of our NS1-based LAIV for H5N1 influenza, another strain with pandemic potential. This CRADA with NIAID supports our efforts to further develop the next generation of our LAIV technology with the H7N9 strain."

About Influenza A(H7N9)

Influenza is a threat to public health. An estimated one billion cases of seasonal (epidemic) influenza occur annually worldwide, causing 20,000 to 36,000 excess deaths per year in the US. Influenza pandemics also have occurred four times in the past century; the most recent was the swine-origin H1N1 influenza pandemic in 2009. In March 2013, a novel avian influenza A(H7N9) virus that can cause

severe illness in humans emerged in China. To date, there have been 141 confirmed cases of and 45 deaths from H7N9 human infection, with limited person-to-person transmission. If the H7N9 influenza virus acquires the ability to spread readily from person to person, the risk of an H7N9 pandemic will be much greater. Vaccines are the most important intervention in reducing the impact of influenza and are a key component of the World Health Organization (WHO) response and preparedness efforts for influenza strains that pose a pandemic threat.

About Vivaldi Biosciences Inc.

Vivaldi is developing live attenuated influenza vaccines (LAIVs) with the potential for superior efficacy in preventing seasonal influenza and emerging pandemic influenza. The company's candidate LAIVs have completed four randomized, double-blind, placebo-controlled clinical trials in a total of 245 volunteers. Preliminary safety and immunogenicity have been demonstrated with five different influenza strains, including H5N1 ("bird flu"). The unique method of attenuation and mode of action of Vivaldi's LAIVs result in potent, protective immunity without the need for adjuvants. Administered as a nasal spray, Vivaldi's LAIVs stimulate the body's production of interferon, which acts as a natural adjuvant, activating the cellular immune response and enhancing production of antibodies, including neutralizing antibodies cross-reactive with variant influenza strains. Vivaldi is headquartered in Fort Collins, CO. The company is privately held. Additional information about Vivaldi can be found at <http://www.vivaldibiosciences.com>.

Forward-Looking Statements

This release contains forward-looking statements relating to Vivaldi Biosciences Inc. All statements included in this communication concerning activities, events or developments that we expect, believe or anticipate will or may occur in the future are forward-looking statements. Forward-looking statements are based on current expectations and projections about future events and involve known and unknown risks, uncertainties and other factors, including, but not limited to, the following: the difficulty of predicting FDA approvals, acceptance and demand for new vaccines and other pharmaceutical products, the impact of competitive products and pricing, new product development and launch, reliance on key strategic alliances, availability of raw materials, availability of additional intellectual property rights, availability of future financing sources, the regulatory environment and other risks the Company may identify from time to time in the future. These forward-looking statements speak only as of the date of this communication and we undertake no obligation to update or revise any forward-looking statement, whether as a result of new information, future events and developments or otherwise, except as required by law.

Contact:

Douglass B. Given, MD, PhD
President and CEO
Vivaldi Biosciences Inc.
Tel: 970-492-4365
info@vivaldibiosciences.com

###