SutroVax Announces Publication of Preclinical Proof of Concept for Preventive Vaccine for Periodontal Disease

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Research details preclinical use of vaccine targeting keystone pathogen Porphyromonas gingivalis

Foster City, CA, February 25, 2019 – SutroVax Inc., a biopharmaceutical company dedicated to the delivery of best-in-class conjugate vaccines and novel complex antigen-based vaccines to prevent serious infectious diseases, today announced the publication of research highlighting the importance and effectiveness of a proprietary multi-valent vaccine that has demonstrated protective immunity against *Porphyromonas gingivalis* (*Pg*) – a common bacteria believed to be responsible for periodontal disease.

The published research describes the use of three recombinant proteins from *P. gingivalis,* namely minor fimbriae protein (Mfa1), RgpA gingipain hemagglutinin domain 1 (HA1), and RgpA gingipain hemagglutinin domain 2 (HA2). This vaccine combination was designed to interrupt biofilm formation between *P. gingivalis* and other oral bacteria which stimulates virulence factors that result in disease progression and circumvent the host immune response. The published results demonstrate that immunization with the combination vaccine induces high levels of Pg protein specific Immunoglobulin G (IgG) antibodies, that resulted in significant protection against bone loss elicited from *P. gingivalis* infection in a murine challenge model.

"The treatment and prevention of disease progression caused by *P. gingivalis* has the potential to significantly impact dental health. *P. gingivalis* has also been shown to be associated with increased risk for heart attack, stroke, and most recently Alzheimer's Disease," said Jeffery Fairman, Ph.D., SutroVax, Inc.'s vice president of research, co-founder and author on the publication. "These findings provide compelling preclinical evidence that a vaccine targeting the biofilm cascade may be an efficacious approach for the treatment and/or prevention of periodontal disease."

The paper, published in the *Journal of Clinical Periodontology* and authored by researchers at the University of Florida College of Dentistry, Boston University School of Medicine, Section of Infectious Diseases and SutroVax, describes the application of SutroVax's proprietary Xpress CF ™ cell free protein synthesis (CFPS) technology as a platform to produce vaccines targeting *Pg* infection.

"Periodontal disease affects over 500 million people worldwide and over half of American adults over 40 years of age are suffering from measurable oral bone loss from the disease" said Grant Pickering, CEO and co-founder. "The application of our cell free technology offers a promising avenue to intercept periodontal disease and its resultant morbidity."

"These results support that a vaccination approach may provide an opportunity to change the trajectory of periodontal disease," said Frank C. Gibson III, Ph.D., University of Florida College of Dentistry researcher and author on the paper. "The findings from our initial preclinical studies are promising and suggest that we are onto something important; however, we are at a very early phase with this work and there is more work to be done before moving forward to clinical testing in humans. I look forward to continuing our collaboration with SutroVax."

Reference: *'Immunization with cell-free generated vaccine protects from Porphyromonas gingivalis-induced alveolar bone loss.'* Journal of Clinical *Periodontology* 2018; DOI 10.1111/jcpe.13047.

The Journal of Clinical Periodontology can be accessed at https://onlinelibrary.wiley.com/loi/1600051x.

About Xpress™ CF Cell-Free Protein Synthesis (CFPS) Platform

The CFPS platform has distinct advantages over traditional in vivo methods for protein production, such as cell lines originating from bacteria, yeast, insects, plants, or mammals. Xpress CF eliminates the need to maintain cell viability allowing for the optimization of protein synthetic capacity and allows for the direct addition of non-natural factors to manipulate transcription, translation and folding, and provide precise modulation of the protein expression process. Collectively, these unique features provide an ability to produce discrete proteins in proper conformation to mimic a desired antigen of interest to serve as the basis for development of an effective vaccine. SutroVax is leveraging these unique capabilities of the CFPS platform along with its site-specific conjugation properties to develop a pipeline of vaccines to address important unmet needs in infectious disease.

About SutroVax

SutroVax is an independent vaccine platform and development company whose mission is to deliver best-in-class conjugate vaccines and novel complex antigen-based vaccines to prevent serious infectious diseases. For more information, visit www.sutrovax.com.

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