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PATH Malaria Vaccine Initiative and Inovio Pharmaceuticals
Partner to Accelerate Development of Malaria Vaccines and
Innovative Delivery Technologies

Follow-on Agreement Will Lead to Clinical Trials

WASHINGTON, DC and Blue Bell, PA (January 7, 2013)—The PATH Malaria Vaccine Initiative (MVI) and Inovio Pharmaceuticals, Inc. (NYSE MKT: INO) today announced a follow-on collaboration to advance malaria vaccine development and new vaccination delivery technologies. Researchers will test whether a novel vaccine approach that combines genetically engineered DNA with an innovative vaccine delivery technology called electroporation could induce an immune response in humans that protects against malaria parasite infection.

Malaria is a deadly disease that still kills more than 500,000 children under age 5 every year. MVI accelerates the development of malaria vaccines by joining its scientific, managerial, and field expertise with companies, universities, and governments to develop malaria vaccines and continue to test and invest in those with the most promise.

This follow-on agreement for clinical development builds on a 2010 research and development collaboration between Inovio and MVI. Inovio researchers and their academic collaborators developed novel DNA plasmids targeting multiple malaria parasite antigens and conducted studies in rodents to demonstrate induction of broad immune responses. The success of these studies resulted in an expanded collaboration, in which further testing demonstrated potent T cell and antibody responses in other animal models.

This DNA-based vaccine approach involves delivery of plasmid DNA by electroporation. Electroporation deploys controlled electrical impulses to create temporary pores in a cell membrane, allowing uptake of the synthetic DNA. The cell then uses the DNA’s instructions to produce proteins that mimic the presence of the malaria pathogen, with the aim of inducing an immune response that provides protection against malaria.

“We are excited to bring this innovative delivery technology into clinical testing to see whether the compelling immune responses seen in animal models translate to humans,” said Dr. David C. Kaslow, director of MVI. “Determining if and how these potent immune responses lead to protection against infection with the most deadly form of malaria is a high priority in our efforts to develop a next generation malaria vaccine.”
The clinical study will contain two study arms. The first study arm will include three antigens, two pre-erythrocytic (CSP and TRAP) and one blood stage (AMA-1), shown previously to protect against *Plasmodium falciparum*, the most deadly malaria strain. The second study arm will include two additional pre-erythrocytic-stage antigens (LSA-1 and CelTOS).

Dr. J. Joseph Kim, President and CEO of Inovio, said, “We are pleased to work with MVI to advance into a human study with Inovio’s plasmid DNA. Our synthetic vaccine platform has produced vaccine candidates against HPV, HIV, and influenza targets that have generated potent T cell immune responses observed in human clinical studies. Using the same platform technology, we have now generated encouraging data with preclinical testing of our malaria antigen plasmids. We are excited to work with our collaborators at MVI toward the ultimate goal of conquering malaria.”

The focus on vaccines that deliver multiple antigens simultaneously is a leading approach to developing highly effective malaria vaccines. The Inovio platform is technically well suited to deliver multiple target antigens and has effectively demonstrated in preclinical studies an ability to induce potent immune responses to these antigens. This is one of a series of platforms MVI plans to evaluate for its capacity to induce immune responses that confer protection from malaria infection in the human challenge model.

The Phase 1/2a clinical trial, which will begin in early 2014, will test Inovio’s plasmid DNA and electroporation technology in approximately 30 individuals, as part of what is known as a challenge trial by controlled human malaria infection. Volunteers will be administered the DNA and then exposed to the malaria parasite through the bite of infected mosquitoes to see whether this approach prevents infection. If successful, this trial would provide valuable information that may further the development of a highly efficacious vaccine against malaria.

About the PATH Malaria Vaccine Initiative
MVI is a global program established at PATH through an initial grant from the Bill & Melinda Gates Foundation. MVI’s mission is to accelerate the development of malaria vaccines and ensure their availability and accessibility in the developing world. MVI’s vision is a world free from malaria. For more information, please visit www.malariavaccine.org.

About PATH
PATH is an international nonprofit organization that transforms global health through innovation. PATH takes an entrepreneurial approach to developing and delivering high-impact, low-cost solutions, from lifesaving vaccines and devices to collaborative programs with communities. Through its work in more than 70 countries, PATH and its partners empower people to achieve their full potential. For more information, please visit www.path.org.

About Inovio Pharmaceuticals, Inc.
Inovio is revolutionizing vaccines to prevent and treat today's cancers and challenging infectious diseases. Its SynCon® vaccines are designed to provide universal cross-strain protection against known as well as newly emergent unmatched strains of pathogens such as influenza. These synthetic vaccines, in combination with Inovio's proprietary electroporation delivery, have been shown in humans to generate best-in-class immune responses with a favorable safety profile. Inovio's clinical programs include Phase II studies for cervical dysplasia, leukemia and hepatitis C virus and Phase I studies for influenza and HIV. Partners and collaborators include the University of Pennsylvania, Merck, ChronTech, National Cancer Institute, U.S. Military HIV Research Program, NIH, HIV Vaccines Trial Network, University of Southampton, University of Manitoba, US Dept. of Homeland Security and PATH Malaria Vaccine Initiative. More information is available at www.inovio.com.