NEWS RELEASE

Inovio's Zika Vaccine Generates Robust Immune Responses in First Human Study

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PLYMOUTH MEETING, Pa., Dec. 21, 2016 (GLOBE NEWSWIRE) -- Inovio Pharmaceuticals, Inc. (NASDAQ:INO) today announced its DNA-based Zika vaccine (GLS-5700) generated robust antigen-specific antibody responses in a first-in-man, multi-center phase I trial. In initial testing, Zika-naïve subjects in both low dose and high dose vaccine groups demonstrated Zika antigen-specific antibody responses after one or two vaccinations. In addition, the vaccine was well tolerated and no significant safety concerns were noted in any of the 40 subjects out to 14 weeks from initiation of dosing, the latest available data from the study.

This phase I, open-label, dose-ranging study of GLS-5700 in healthy adult volunteers is evaluating the safety, tolerability and induction and persistence of Zika specific antibody and T cell responses out to 60 weeks. In preclinical testing Inovio's Zika vaccine protected animals that had been exposed to the virus from infection, brain damage and death.

Dr. J. Joseph Kim, Inovio's President & CEO, said, "These early clinical results show that Inovio is on track to rapidly develop Zika countermeasures for this disease that has no currently existing vaccine or treatment. Our synthetic vaccine technology allows rapid development of new products, leading Inovio to be the first to create a Zika vaccine, the first to generate preclinical data, the first to initiate human testing, and now first to report positive clinical data."

"We also look forward to completing our second phase I study of 160 subjects in Puerto Rico, where the CDC estimates 25% of the population could be infected with Zika virus by year end. We expect results next year which may provide exploratory signals of vaccine efficacy. Based on these two studies, we plan to meet with regulators to map out the most efficient path forward to bring our Zika vaccine to patients and help mitigate this widespread Zika outbreak that has expanded into the continental United States."

Inovio is developing its Zika vaccine, GLS-5700, with GeneOne Life Science, Inc. (KSE:011000) and academic collaborators from the U.S. and Canada who are also collaborating to advance clinical development of Inovio's Ebola and MERS vaccines.

In addition to the vaccine development, earlier this month, Inovio and The Wistar Institute received an $8.8 million grant from the Bill & Melinda Gates Foundation to develop a DNA-based monoclonal antibody designed to provide fast-acting protection against

Zika infection and its debilitating effects. Unlike vaccines, monoclonal antibody-based therapies could provide more immediate protection but do not develop long-term immune memory. An ideal approach would therefore include the co-administration of a dMAb™ product for immediate protection and a DNA vaccine to train the immune system for longer-term, persistent protection against Zika infection.

About Zika Virus

First identified in Uganda, Zika virus subsequently spread to equatorial Asia and over the past two years has rapidly spread through the South Pacific, Hawaii, South America, Central America, and the Caribbean. In 2016, active local mosquito-borne transmission began to occur in North America, specifically confirmed in Florida and reported but awaiting confirmation in Texas. Zika virus is a flavivirus, a family of viruses including yellow fever, dengue, and West Nile virus, which are introduced to people through mosquito bites. Because the Aedes species of mosquitoes that spreads Zika virus is found throughout the world there is concern that Zika will continue to spread to new countries and regions. As of December 2016, 68 countries and territories (including 48 in the Americas) reported continuing mosquito-borne transmission of the Zika virus, compared to 33 countries stated by WHO in their first Zika situation report in February 2016. Unlike other flaviviruses, Zika virus can be sexually transmitted.

The most common manifestations of symptomatic Zika virus infection are fever, rash, joint pain, and conjunctivitis. Zika is very strongly associated with and almost certainly causes birth defects, most notably microcephaly, which arises from infection during pregnancy. Microcephaly is the result of incomplete brain development which is manifested as an abnormally small head and severe mental retardation. In adults, Zika virus infection is also associated with Guillain-Barre syndrome, which causes muscle weakness of the limbs and in severe cases may cause almost total paralysis including the inability to breathe. Recent reports suggest Zika may also be associated with other neurological abnormalities and abnormalities in other systems including ocular and cardiac.

No vaccine or therapy currently exists for the prevention or treatment of infection of the Zika virus.

About Inovio Pharmaceuticals, Inc.

Inovio is taking immunotherapy to the next level in the fight against cancer and infectious diseases. We are the only immunotherapy company that has reported generating T cells in vivo in high quantity that are fully functional and whose killing capacity correlates with relevant clinical outcomes with a favorable safety profile. With an expanding portfolio of immune therapies, the company is advancing a growing preclinical and clinical stage product pipeline. Partners and collaborators include MedImmune, The Wistar Institute, University of Pennsylvania, DARPA, GeneOne Life Science, Plumbline Life Sciences, Drexel University, NIH, HIV Vaccines Trial Network, National Cancer Institute, U.S. Military HIV Research Program, and Laval University. For more information, visit **www.inovio.com**.

This press release contains certain forward-looking statements relating to our business, including our plans to develop

electroporation-based drug and gene delivery technologies and DNA vaccines, our expectations regarding our research and development programs and our capital resources. Actual events or results may differ from the expectations set forth herein as a result of a number of factors, including uncertainties inherent in pre-clinical studies, clinical trials and product development programs, including the Zika vaccine GLS-5700, the availability of funding to support continuing research and studies in an effort to prove safety and efficacy of electroporation technology as a delivery mechanism or develop viable DNA vaccines, our ability to support our broad pipeline of SynCon® active immunotherapy and vaccine products, the ability of our collaborators to attain development and commercial milestones for products we license and product sales that will enable us to receive future payments and royalties, the adequacy of our capital resources, the availability or potential availability of alternative therapies or treatments for the conditions targeted by the company or its collaborators, including alternatives that may be more efficacious or cost effective than any therapy or treatment that the company and its collaborators hope to develop, issues involving product liability, issues involving patents and whether they or licenses to them will provide the company with meaningful protection from others using the covered technologies, whether such proprietary rights are enforceable or defensible or infringe or allegedly infringe on rights of others or can withstand claims of invalidity and whether the company can finance or devote other significant resources that may be necessary to prosecute, protect or defend them, the level of corporate expenditures, assessments of the company's technology by potential corporate or other partners or collaborators, capital market conditions, the impact of government healthcare proposals and other factors set forth in our Annual Report on Form 10-K for the year ended December 31, 2015, our Form 10-Q for the quarter ended September 30, 2016, and other regulatory filings from time to time. There can be no assurance that any product in Inovio's pipeline will be successfully developed or manufactured, that final results of clinical studies will be supportive of regulatory approvals required to market licensed products, or that any of the forward-looking information provided herein will be proven accurate.

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