



NEWS RELEASE

Inovio and Partners Initiate Phase 1/2a Clinical Trial To Further Advance Its Vaccine Against Deadly MERS Infection

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Korean trial is fully funded by partners and will evaluate Inovio's advanced intradermal delivery system

PLYMOUTH MEETING, Pa., Sept. 18, 2017 (GLOBE NEWSWIRE) -- Inovio Pharmaceuticals, Inc. (NASDAQ:INO) today announced that the Korean Ministry of Food and Drug Safety approved the initiation of a study to evaluate GLS-5300, Inovio's vaccine against the MERS virus (Middle East Respiratory Syndrome), in a phase 1/2a trial. The trial will be conducted in South Korea by Inovio's MERS development partner, GeneOne Life Science (KSE:011000). The International Vaccine Institute (IVI) is fully funding this trial utilizing a \$34 million grant Samsung Foundation committed to IVI in 2015 to support the development of a MERS vaccine.

This phase 1/2a study represents the second clinical trial for GLS-5300, which remains the first and only MERS vaccine being tested in humans. The first phase 1 MERS study is being successfully completed at the Walter Reed Army Institute of Research in Maryland. In this study, after a three dose vaccine regimen with GLS-5300 delivered intramuscularly, high levels of binding antibodies were measured (ELISA) in 92% (57 of 62) of evaluated subjects. Significant antigen-specific cytotoxic T-lymphocyte (CTL) responses were also observed. Importantly, all but one evaluated vaccinated subject or 98% (61 of 62) generated an antibody and/or T cell response against the MERS vaccine. Generation of MERS antigen-specific antibody and T cell responses is believed to be important for generating immediate and long-lasting protection against the disease. The vaccine was well tolerated and no significant safety concerns were noted.

The new phase 1/2a trial in Korea will assess the responses of GLS-5300 delivered intradermally. In preclinical challenge studies, GLS-5300 protected 100% of vaccinated rhesus macaques from a lethal MERS virus challenge.

Dr. J. Joseph Kim, Inovio's President & CEO, said, "Korea was devastated by a MERS outbreak two years ago and now looks to Inovio to produce an approved product for emergency use in Korea. Our DNA-based vaccines, which can be rapidly designed and manufactured, are well matched to meet public health challenges such as this. With financial support from IVI and Samsung, Inovio and GeneOne are expanding GLS-5300 vaccine development in Korea, executing our vision to generate additional immune data to support the potential approval of GLS-5300 in Korea. Our Korean study is also notable because it will utilize our intradermal vaccine delivery device which has demonstrated in other infectious disease trials (HIV, Ebola & Zika) to elicit very high immune responses at

a much lower dose.”

Despite the continuing threat of MERS outbreaks, there are no licensed vaccines or treatments for MERS. Since the virus was first identified in Saudi Arabia in 2012, the World Health Organization reports more than 2,000 MERS infections and nearly 700 deaths worldwide. Twenty seven countries have reported cases, including Korea where an outbreak in the summer of 2015 resulted in 186 cases and 38 deaths. While a SARS epidemic in 2003 killed 10% of those infected, MERS has killed about 36% of people who contracted this communicable virus. MERS causes a rapidly progressive respiratory illness that may require intensive care treatment and mechanical ventilation in many patients.

About GeneOne Life Science

GeneOne Life Science Inc. is an international DNA vaccine developer and leading contract manufacturer of DNA plasmid-based agents for pre-clinical and clinical trials for global companies and institutions. It researches and develops DNA vaccines to prevent and treat incurable diseases in South Korea and internationally. The company is headquartered in Seoul, South Korea. VGXI, Inc., GeneOne's wholly-owned manufacturing subsidiary located in Texas, is the largest pure-play cGMP DNA plasmid manufacturing facility in the world. For more information, visit www.genels.com.

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, Regeneron, Genentech, The Wistar Institute, University of Pennsylvania, DARPA, GeneOne Life Science, Plumblin Life Sciences, ApolloBio Corporation, 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, including GLS-5300, our expectations regarding our research and development programs, including the planned initiation and conduct of clinical trials and the availability and timing of data from those trials, and the sufficiency of 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, the development of Inovio's dMAb products, 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 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, 2016, our Form 10-Q for the period ended June 30, 2017, and other regulatory filings we make from time to time. There can be no assurance that any product candidate in Inovio's pipeline will be successfully developed, manufactured or commercialized, that final results of clinical trials 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. In addition, the forward-looking statements included in this press release represent Inovio's views as of the date hereof. Inovio anticipates that subsequent events and developments may cause its views to change. However, while Inovio may elect to update these forward-looking statements at some point in the future, the company specifically disclaims any obligation to do so, except as may be required by law. These forward-looking statements should not be relied upon as representing Inovio's views as of any date subsequent to the date of this release.

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