Inovio Ebola Vaccine demonstrates robust immune responses in trial

Inovio Pharmaceuticals, Inc. {NASDAQ: INO} announced preliminary results from the expanded stage of its phase I study, EBOV-001.

The results across both stages of the trial, including both intramuscular and intradermal delivery, demonstrated that 95% (170/179) of evaluable subjects generated an Ebola-specific antibody immune response, with the mean antibody titer comparable or superior to those reported from viral vector-based Ebola vaccines.

Inovio Ebola Vaccine Demonstrates Robust Immune Responses with Favorable Safety Profile in Expanded Clinical Trial
PLYMOUTH MEETING, Pa. – April 11, 2017 – **Inovio Pharmaceuticals, Inc. {NASDAQ: INO}** announced today preliminary results from the expanded stage of its phase I study, EBOV-001.

The expanded study examined different regimens of its Ebola DNA vaccine INO-4201 using intradermal (skin) administration. The results across both stages of the trial, including both intramuscular and intradermal delivery, demonstrated that 95%

(170/179) of evaluable subjects generated an Ebola-specific antibody immune response, with the mean antibody titer comparable or superior to those reported from viral vector-based Ebola vaccines.

Importantly, Inovio's Ebola vaccine was well-tolerated with a favorable safety profile compared to viral vector-based Ebola vaccines, some of which have been associated with serious adverse events including myalgia, arthralgia, fever, and rash. Furthermore, their faster construct design, ability to continue to boost immune responses and protection with additional administrations, easier scalability of manufacturing, and better product thermal stability make DNA vaccines an attractive platform to rapidly respond to emerging global infectious diseases.

Previously, Inovio reported positive safety and immune response data in the first set of 75 healthy volunteers administered with INO-4212 (60 delivered intramuscularly and 15 intradermally). Based on that result Inovio enrolled an additional 125 subjects in a second stage of this trial to further characterize and optimize immunization regimens using intradermal delivery, which is well-suited for this preventive Ebola DNA vaccine. Across the two stages, 88% (50/57) of evaluable intramuscular subjects generated an Ebola-specific antibody immune response; 97% (119/122) of evaluable intradermal subjects generated an Ebola-specific antibody immune response.

In an accompanying preclinical study, INO-4201 protected 100% of rhesus monkeys challenged with a lethal dose of the Ebola virus following vaccination with two intradermal doses of INO-4201.

Dr. Scott White, Inovio's Vice President of Clinical Development, is presenting this data today at the World Vaccine Congress in Washington, D.C.

Dr. J. Joseph Kim, Inovio's President & CEO, said, *"This response rate mirrors the high response rates we recently reported from our MERS and Zika clinical studies, reinforcing Inovio's ability to rapidly design and construct vaccines against emerging global infectious diseases. With these strong results from 200 subjects and positive preliminary preclinical data from several animal species, we plan to meet with regulators this year regarding a path forward for the licensure of our Ebola product."*

Inovio's Ebola vaccine program is funded by a $45 million contract received from DARPA to develop an Ebola vaccine and DNA-based monoclonal antibody therapy. A more detailed data set and analysis from this study is being prepared for publishing in a peer-reviewed journal.

About Ebola

The Ebola virus causes periodic outbreaks of a highly contagious and lethal human infectious disease marked by severe hemorrhagic fever, with a mortality rate that ranges between 50% and 90%. The infection typically affects multiple organs in the body and is often accompanied by severe bleeding. The virus is transmitted to people from wild animals and spreads in the human population through human-to-human transmission. At present there are no FDA-approved pre- or post-exposure interventions available in the event of an

outbreak, laboratory accident, or deliberate misuse. The Ebola virus is classified as a Category A Priority Pathogen by the Centers for Disease Control and Prevention. This designation prescribes an accelerated development pathway for FDA approval that determines efficacy based on two different validated animal studies followed by clinical evaluation in phase I and phase II trials to establish safety and immunogenicity for use in humans.

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, 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**

CONTACT:

Bernie Hertel
+1 858 410 3101
bhertel@inovio.com

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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 Ebola immunotherapy INO-4212, 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, 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.