NEWS RELEASE

Inovio Deploys DNA-based Monoclonal Antibody Technology in Quest to Cure HIV

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Funding for Potential Breakthrough Therapy is Part of Prestigious NIH/Delany Grant for Industry-Academic Collaboration

PLYMOUTH MEETING, Pa., July 14, 2016 (GLOBE NEWSWIRE) -- Inovio Pharmaceuticals, Inc. (NASDAQ:INO) today announced that its novel DNA-based monoclonal antibody technology will be deployed to develop products which could be used alone and in combination with other immunotherapies in the pursuit of new ways to treat and potentially cure infection from the HIV virus.

In a recently published article, Inovio demonstrated that a single administration in mice of a highly optimized dMAb® DNA, which targets HIV, generated antibody molecules in the bloodstream that possessed desirable functional activity including high antigen-binding and HIV-neutralization capabilities against diverse strains of HIV viruses.

Funding for Inovio's effort to treat and potentially cure HIV is part of a $23 million grant from the National Institutes of Health to The Wistar Institute, an Inovio collaborator. This grant brings together Inovio and more than 30 of the nation's leading HIV investigators to work on finding a cure for the virus. The grant, called BEAT-HIV: Delaney Collaboratory to Cure HIV-1 Infection by Combination Immunotherapy, is one of six awarded by the NIH as part of the Martin Delaney Collaboratories for HIV Cure Research.

"A simple, safe and scalable cure for HIV would accelerate progress toward ending the HIV/AIDS pandemic," said National Institute of Allergy and Infectious Disease (NIAID) Director Anthony S. Fauci, M.D. "Through the leadership of talented investigators with a diversity of expertise, the Martin Delaney Collaboratory program will accelerate progress in this key research endeavor."

Dr. J. Joseph Kim, Inovio's President & CEO, said, "With 37 million people infected with HIV still awaiting a cure to HIV, we are pleased that our new HIV dMAb products are expanding our initiative alongside our breakthrough DNA vaccine products to potentially help these patients."

Inovio has demonstrated experience in advancing HIV product candidates. Inovio completed initial clinical studies of its HIV immunotherapy PENNVAX®-B, targeting clade B viruses, to achieve proof of principle in generating potent immune responses using

its SynCon® immunotherapy technology. In two published phase I studies, PENNVAX-B immunization generated high levels of activated, antigen-specific CD8+ killer T cells with proper functional characteristics. This ability uniquely positioned PENNVAX as an important vaccine candidate to prevent and treat HIV infections.

Using a $25 million grant from the NIAID, Inovio designed its universal, multi-antigen PENNVAX-GP vaccine targeting the env, gag and pol antigens to provide global coverage against all major HIV-1 clades. PENNVAX-GP is Inovio's lead preventive and therapeutic immunotherapy for HIV and is being evaluated in a phase I clinical study (HVTN-098) involving 94 healthy subjects as a preventive vaccine.

About Inovio’s dMAbs

Monoclonal antibodies (mAb) were a transformational scientific innovation designed to enhance the immune system's ability to regulate cell functions. They are designed to bind to a very specific epitope (area) of an antigen or cell surface target and can bind to almost any selected target.

The paradigm shift of Inovio's technology is that the DNA for a monoclonal antibody is encoded in a DNA plasmid, delivered directly into cells of the body using electroporation, and the mAbs are "manufactured" by these cells. Using this newly patented approach, Inovio published that a single administration of a highly optimized DNA-based monoclonal antibody targeting HIV virus in mice generated antibody molecules in the bloodstream possessing desirable functional activity including high antigen-binding and HIV-neutralization capabilities against diverse strains of HIV viruses. The potential of this technology was further demonstrated in two additional published studies where dMAb products for Chikungunya and dengue viruses were able to completely protect the treated mice from lethal exposure to these viruses.

All of these feats were not previously achievable with other DNA-based or viral delivery technologies. Inovio's transformational approach could be applied to develop active monoclonal antibody products against multiple therapeutically important diseases including cancers as well as inflammatory and infectious diseases. Combined with favorable pharmacokinetic characteristics and cost structure compared to conventional monoclonal antibody technology, Inovio's active in-body generation of functional monoclonal antibodies in humans has the potential to significantly expand the range of targetable diseases.

Monoclonal antibodies as a product class have become one of the most valuable therapeutic technologies of recent years. In 2012, global sales value of monoclonal antibodies exceeded $50 billion. Among the top 10 best-selling drugs in 2012, six of them were monoclonal antibodies, each with annual sales exceeding $5 billion.

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, Roche, 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 University of Manitoba. 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, but not limited to, the fact that pre-clinical and clinical results referenced in this release may not be indicative of results achievable in other trials or for other indications, that the studies or trials may not be successful or achieve the results desired, including safety and efficacy for VGX-3100 and INO-3112, that pre-clinical studies and clinical trials may not commence or be completed in the time periods anticipated, that results from one study may not necessarily be reflected or supported by the results of other similar studies and that results from an animal study may not be indicative of results achievable in human studies), 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, our ability to advance our portfolio of immuno-oncology products independently, 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, our ability to enter into partnerships in conjunction with our research and development programs, evaluation of potential opportunities, 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 March 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.

CONTACTS:
Investors: Bernie Hertel, Inovio Pharmaceuticals, 858-410-3101, **bhertel@inovio.com**

Media: Jeff Richardson, Inovio Pharmaceuticals, 267-440-4211, **jrichardson@inovio.com**

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