NEWS RELEASE

Inovio Opens Phase 2 Trial for VGX-3100 in Third Indication To Treat HPV – The No. 1 Sexually Transmitted Disease

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Inovio initiates Phase 2 trial for HPV-related anal precancer; already advancing treatment for HPV-caused cervical precancers (Phase 3), and vulvar precancers (Phase 2)

PLYMOUTH MEETING, Pa., May 21, 2018 (GLOBE NEWSWIRE) -- Inovio Pharmaceuticals, Inc. (NASDAQ:INO) today announced that it has commenced a Phase 2 clinical trial to evaluate the efficacy of VGX-3100 in adult men and women with human papilloma virus (HPV)-related anal dysplasia. Recruitment is ongoing for patients who are HIV-negative with histologically confirmed anal or perianal high-grade squamous intraepithelial lesions (HSIL) associated with HPV-16 and/or HPV-18. The study is planning to enroll approximately 24 patients and will administer at least three doses of VGX-3100.

Anal HSIL or dysplasia is the precursor to anal cancer, which is estimated to cause more than 1,100 deaths in the United States in 2018. Currently, the only treatments for anal dysplasia consist of surgical excision, electro-cautery or laser therapy, but more than 50% of those treated with these current treatments experience recurrence of the disease.

Dr. Céline Bouchard, FRCSC, gynecologist, colposcopist and Coordinating Principal Investigator, said, “The large burden of disease rests in the general population. As more than 70% of anal cancers in the United States occur among HIV-negative men and women, a non-surgical immunotherapy to eradicate precancerous perianal and/or anal lesions caused by HPV types 16 or 18 infection would represent a major breakthrough for the treatment of this disease and the prevention of anal cancer.”

Dr. J. Joseph Kim, Inovio's President and CEO, said, “Inovio is boldly targeting the world’s No. 1 sexually transmitted disease – the HPV virus – across the continuum of conditions with our treatment that has demonstrated efficacy eliminating disease and clearing the underlying HPV infection. This compact Phase 2 efficacy trial represents an important step towards Inovio’s aim to develop a comprehensive immunotherapeutic solution to HPV-related diseases, especially given that anal dysplasia remains an underdiagnosed condition which needs better treatment options. Inovio is rapidly moving on a path to become the ‘go-to’ immunotherapeutic solution provider for all diseases caused by HPV, including cervical, vulvar and anal precancers and with our

partner MedImmune/AstraZeneca for HPV-related cancers."

This open-label, multi-center Phase 2 study is designed to evaluate the safety and efficacy of VGX-3100 administered by intramuscular (IM) injection w CELLECTRA® delivery system in adult men and women who are human immunodeficiency virus (HIV) negative with HSIL associated with HPV-16 and/or HPV-18. Prior study results utilizing Inovio's VGX-3100 immunotherapy, which is also in a Phase 3 trial evaluating treatment for cervical dysplasia, supported expanding treatment indications for patients associated with HPV-16 and/or HPV-18. In a Phase 2 trial for cervical dysplasia, VGX-3100 demonstrated a systemic response (vs. localized surgery) and clearance of cervical lesions and eliminating the underlying HPV infection in many patients. For additional information about the study, please visit **www.clinicaltrials.gov** (search identifier NCT03499795).

About VGX-3100

VGX-3100 is a DNA-based immunotherapy under Phase 3 investigation for the treatment of HPV-16 and HPV-18 infection and precancerous lesions of the cervix. Inovio is in open-label Phase 2 clinical trials evaluating its efficacy for treating HPV-related vulvar and anal precancers. VGX-3100 has the potential to be the first approved treatment for HPV infection of the cervix and the first non-surgical treatment for precancerous cervical lesions. VGX-3100 works by stimulating a specific immune response to HPV-16 and HPV-18, which targets the infection and causes destruction of precancerous cells. In a randomized, double-blind, placebo-controlled phase 2b study in 167 adult women with histologically documented HPV 16/18 cervical HSIL (CIN2/3), treatment with VGX-3100 resulted in a statistically significantly greater decrease in cervical HSIL and clearance of HPV infection vs. placebo. The most common side effect was injection site pain, and no serious adverse events were reported. VGX-3100 utilizes the patient's own immune system to clear HPV-16 and HPV-18 infection and precancerous lesions without the increased risks associated with surgery, such as loss of reproductive health and negative psychosocial impacts.

About Inovio's DNA Immunotherapy Technology Platform

Inovio is advancing the medical potential of a unique class of immunotherapy technology. Its DNA-based platform, which is the foundation for all of Inovio's products, including VGX-3100, is unique in its ability to leverage the body's naturally existing mechanisms to generate robust, highly targeted immune responses to prevent and treat disease – and to do so in the body without harmful side effects. Its SynCon® immunotherapy design and CELLECTRA® delivery transform novel genetic blueprints into functional antibody and killer T cell responses. Inovio was the first to report the activation – in the body – of significant, antigen-specific functional T cells correlated to statistically significant efficacy in a placebo-controlled, randomized, double-blind Phase 2b clinical trial (HPV-related precancer), with a very favorable safety profile. These data were published in The Lancet and independently described as a "major breakthrough" in the field by U.S. National Cancer Institute scientists. Inovio has achieved significant antigen-specific immune responses against multiple diseases and is advancing a growing pipeline of cancer and infectious disease immunotherapies and vaccines.

About Inovio Pharmaceuticals, Inc.

Inovio is a late-stage biotechnology company focused on the discovery, development, and commercialization of DNA immunotherapies that transform the treatment of cancer and infectious diseases. Inovio's proprietary platform technology, ASPIRE, applies next-generation antigen sequencing and DNA delivery to activate potent immune responses to targeted diseases. The technology functions exclusively in vivo, and has been demonstrated to consistently activate robust and fully functional T cell and antibody responses against targeted cancers and pathogens. Inovio is the only immunotherapy company that has reported generating T cells whose killing capacity correlates with relevant clinical outcomes. Inovio's most advanced clinical program, VGX-3100, is in Phase 3 for the treatment of HPV-related cervical precancer. Also in development are Phase 2 immuno-oncology programs targeting head and neck cancer, bladder cancer, and glioblastoma, as well as platform development programs in hepatitis B, Zika, Ebola, MERS, and HIV. Partners and collaborators include MedImmune, Regeneron, Roche/Genentech, ApolloBio Corporation, The Wistar Institute, University of Pennsylvania, the Parker Institute for Cancer Immunotherapy, CEPI, 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, including the planned initiation and conduct of clinical trials and the availability and timing of data from those trials, and our plans and expectations regarding partnerships. 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 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 us or our collaborators, including alternatives that may be more efficacious or cost effective than any therapy or treatment that we and our collaborators hope to develop, issues involving product liability, issues involving patents and whether they or licenses to them will provide us 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 we can finance or devote other significant resources that may be necessary to prosecute, protect or defend them, the level of corporate expenditures, assessments of our 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, 2017, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 and other regulatory filings

we make from time to time. There can be no assurance that any product candidate in our 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. Forward-looking statements speak only as of the date of this release, and we undertake no obligation to update or revise these statements, except as may be required by law.

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