Inovio and Medimmune agree strategic cancer collaboration

Inovio Pharmaceuticals Inc. {NASDAQ: INO} and **Medimmune** have today conformed that they have entered into a strategic collaboration and licence agreement for strategic cancer vaccine.

Medimmune is the biologics division of Astra Zenica

INOVIO PHARMACEUTICALS ENTERS INTO STRATEGIC CANCER VACCINE COLLABORATION AND LICENSE AGREEMENT WITH MEDIMMUNE

Agreement includes clinical-stage INO-3112 HPV cancer vaccine and pre-clinical collaboration to develop additional cancer vaccine candidates.
PLYMOUTH MEETING, Pa. – August 10, 2015 – **Inovio Pharmaceuticals {NASDAQ: INO}** today announced that it has entered into a license agreement and collaboration with **Medimmune**, the global biologics research and development arm of AstraZeneca.

Under the agreement, MedImmune will acquire exclusive rights to Inovio's INO-3112 immunotherapy, which targets cancers caused by human papillomavirus (HPV) types 16 and 18. INO-3112, which is in phase I/II clinical trials for cervical and head and neck cancers, works by generating killer T-cell responses that are able to destroy HPV 16- and 18-driven tumors. These HPV types are responsible for more than 70 percent of cervical pre-cancers and cancers.

MedImmune intends to study INO-3112 in combination with selected immunotherapy molecules within its pipeline in HPV-driven cancers. Emerging evidence suggests that the benefits from immuno-oncology molecules, such as those in MedImmune's portfolio, can be enhanced when they are used in combination with cancer vaccines that generate tumor-specific T-cells.

Under the terms of the agreement, MedImmune will make an upfront payment of $27.5 million to Inovio as well as potential future payments upon reaching development and commercial milestones totaling up to $700 million. MedImmune will fund all development costs. Inovio is entitled to receive up to double-digit tiered royalties on INO-3112 product sales.

Within the broader collaboration, MedImmune and Inovio will develop up to two additional DNA-based cancer vaccine products not included in Inovio's current product pipeline, which MedImmune will have the exclusive rights to develop and commercialize. Inovio will receive development, regulatory and commercialization milestone payments and will be eligible to receive royalties on worldwide net sales for these additional cancer vaccine products.

Dr. David Berman, Senior Vice President and Head of the Oncology Innovative Medicines unit, MedImmune, said: "Today's collaboration with Inovio leverages our deep internal expertise in the use of vaccines to drive antigen-specific T-cell responses. The unique combination of our broad immuno-oncology portfolio with Inovio's T-cell-activating INO-3112, which enhances cancer specific killer T-cells, has the potential to deliver real clinical benefits for patients."

Dr. J. Joseph Kim, President and CEO, Inovio, said: "*Our licensing partnership with MedImmune represents an important step in executing our immuno-oncology combination strategy and advancing Inovio's cancer vaccine R&D pipeline with a leading cancer immunotherapy company. INO-3112 is progressing, with positive interim data generated in an Inovio-initiated phase I study. We appreciate MedImmune's recognition of our ability to activate best-in-class killer T-cells in vivo and look forward to working with them on this collaboration*."

Today's agreement builds on the existing partnership between Inovio and MedImmune on two research and development collaborations in the infectious disease area. Both efforts are funded by the Defense Advanced Research Projects Agency (DARPA) and support R&D focused on Ebola, influenza, and bacterial infections. MedImmune has a strong heritage in infectious disease and vaccine innovation, having developed the first monoclonal antibody approved by the US Food & Drug Administration for the prevention of an infectious disease and the technology that led to the creation of an HPV vaccine.

About INO-3112

Inovio's SynCon® DNA-based immunotherapies help the immune system activate disease-specific killer T cells to fight a targeted disease. HPV, the most pervasive sexually transmitted virus, causes numerous pre-cancers and cancers. Inovio's HPV immunotherapy called INO-3112 targets disease associated with the high-risk HPV types 16 and 18, which are responsible for over 70% of cervical pre-cancers and cancers. INO-3112 combines Inovio's VGX-3100, its immunotherapy targeting HPV-caused diseases, with its DNA-based immune activator encoded for IL-12. INO-3112 is in three clinical studies for cervical and head and neck cancers.

Earlier this year, Inovio reported preliminary data showing that INO-3112 generated significant antigen-specific CD8+ T cell responses in 3 of 4 patients with head and neck cancer associated with human papillomavirus (HPV) types 16 and 18. These positive results represent the first study and first report of antigen-specific T cell immune responses generated in cancer patients after treatment with a DNA immunotherapy.

Previously in a phase II efficacy trial, treatment with VGX-3100 resulted in histopathological regression of late-stage cervical dysplasia to early stage or no disease, meeting the study's primary endpoint. In addition, the trial demonstrated clearance of the HPV virus in conjunction with regression of cervical lesions, meeting the secondary endpoint. Robust T-cell activity was observed in subjects who received VGX-3100 compared to those who received placebo.

About MedImmune

MedImmune is the global biologics research and development arm of AstraZeneca, a global, innovation-driven biopharmaceutical business that focuses on the discovery, development and commercialization of small molecule and biologic prescription medicines. MedImmune is pioneering innovative research and exploring novel pathways across key therapeutic areas, including respiratory, inflammation and autoimmunity; cardiovascular and metabolic disease; oncology; neuroscience; and infection and vaccines. The MedImmune headquarters is located in Gaithersburg, Md., one of AstraZeneca's three global R&D centers.

For more information, please visit www.medimmune.com

About AstraZeneca in Oncology

Oncology is a therapeutic area in which AstraZeneca has a deep-rooted heritage. It will be potentially transformational for the company's future, becoming the sixth growth platform. Their vision is to help patients by redefining the cancer treatment paradigm and one day eliminate cancer as a cause of death. By 2020, we are aiming to bring six new cancer medicines to patients.

Their broad pipeline of next-generation medicines is focused on four main disease areas – ovarian, lung, breast and hematological cancers. These are being targeted through four key platforms – immuno-oncology, the genetic drivers of cancer and resistance, DNA damage repair and antibody drug conjugates.

About AstraZeneca
AstraZeneca is a global, innovation-driven biopharmaceutical business that focuses on the discovery, development and commercialization of prescription medicines, primarily for the treatment of cardiovascular, metabolic, respiratory, inflammation, autoimmune, oncology, infection and neuroscience diseases.

AstraZeneca operates in over 100 countries and its innovative medicines are used by millions of patients worldwide.

For more information please visit: www.astrazeneca.com

About Inovio Pharmaceuticals, Inc.
Inovio is revolutionizing the fight against cancer and infectious diseases. Their immunotherapies uniquely activate best-in-class immune responses to prevent and treat disease, and have shown clinically significant efficacy 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, University of Pennsylvania, DARPA, GeneOne Life Science, 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
CONTACTS:

Investors: Bernie Hertel, Inovio Pharmaceuticals

+1 858-410-3101

bhertel@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 immune therapy and vaccine products, our ability to advance our portfolio of immune-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, 2014, our Form 10-Q for the quarter ended June 30, 2015, 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.