NEWS RELEASE

Inovio Publishes Patient Benefit Results From A Pilot Clinical Study in Recurrent Respiratory Papillomatosis (RRP), A Rare Disease Caused by HPV Infections

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PLYMOUTH MEETING, Pa., Feb. 3, 2020 /PRNewswire/ -- Inovio Pharmaceuticals, Inc. (NASDAQ: INO) today announced publication of data from its pilot clinical study of INO-3106, a novel DNA therapy targeting human papilloma virus type 6 (HPV 6) for the treatment of recurrent respiratory papillomatosis (RRP), a rare and orphan disease, in the open access scientific journal Vaccines (MDPI). The article, entitled "Immune Therapy Targeting E6/E7 Oncogenes of Human Papillomavirus Type 6 (HPV-6) Reduces or Eliminates the Need for Surgical Intervention in the Treatment of HPV-6 Associated Recurrent Respiratory Papillomatosis" details the clinical efficacy seen in a pilot clinical study of two patients with RRP and is authored by Inovio and its collaborators at University of Pennsylvania Medical School as well as The Wistar Institute.

RRP is a rare, orphan, HPV-associated disease that can cause noncancerous tumor growths leading to life-threatening airway obstructions, and occasionally progresses to cancer. Currently, the disease is incurable and can only be treated by surgery to remove the tumors, which temporarily restores the airway. The tumor always recurs and the surgery must be repeated, usually multiple times a year.

Study results demonstrated that INO-3106 generated immunogenicity and engagement and expansion of an HPV 6-specific cellular response, including cytotoxic T cells. The paper also showed that Inovio's immunotherapy allowed two patients who previously required approximately two surgeries per year to manage this disease to delay the need for surgery to a robust degree; with one patient requiring no surgeries for over a year and a half (584 days surgery free) and a second that remained surgery free for over two and a half years (over 915 days surgery free).

For this study, Inovio employed INO-3106, targeting specifically HPV 6 caused RRP. In order to evaluate and treat patients with RRP caused by both HPV 6 and 11, Inovio is developing a new product candidate which targets both HPV 6 and 11 named INO-3107. Inovio plans to advance INO-3107 into Phase 2 clinical trials in the first half of 2020 as a novel first-in-class immunotherapy for the treatment of RRP in both adult and pediatric populations.

Dr. J. Joseph Kim, Inovio's President and CEO, said, "We are pleased that the highly regarded journal Vaccines has acknowledged Inovio's impressive RRP pilot study results. We are advancing rapidly to bring relief to RRP patients whose treatment options today are limited to repetitive and invasive surgeries. We look forward to initiating a Phase 2 human trial this year to evaluate INO-3107, a potential life-changing DNA medicine for this rare disease."

About RRP

Recurrent respiratory papillomatosis (RRP) is a rare disease (estimated at 20,000 active cases in the U.S.) that is characterized by the growth of tumors in the respiratory tract caused by the human papilloma virus. Although benign, papillomas can cause severe, even life-threatening airway obstruction and respiratory complications. A distinguishing aspect of this disease is the tendency for the papilloma to recur after surgical procedures to remove them. Left untreated, if RRP develops in the lungs, affected individuals can potentially experience recurrent pneumonia, chronic lung disease (bronchiectasis) and, ultimately, progressive pulmonary failure. In extremely rare cases (i.e. less than 1% of cases), papillomas can become cancerous (malignant transformation) developing into squamous cell carcinoma. Additional symptoms of RRP can include hoarse voice, difficulty in sleeping and swallowing, and chronic coughing. RRP symptoms are more severe in children than in adults. In children, the disorder is most often diagnosed between the ages of 2-4. In adults, the disorder occurs most often in the third or fourth decade.

About Inovio Pharmaceuticals, Inc.

Inovio is a biotechnology company focused on rapidly bringing to market precisely designed DNA medicines to treat, cure and/or protect people from diseases associated with HPV, cancer, and infectious diseases. Inovio is the first and only company to have clinically demonstrated that a DNA medicine can be delivered directly into cells in the body via a proprietary smart device to safely produce a robust immune response to destroy and clear high-risk HPV 16 and 18, which are responsible for 70% of cervical cancer, 90% of anal cancer and 69% of vulvar cancer. In addition to HPV, Inovio's optimized plasmid design and delivery technology has been demonstrated to consistently activate robust and fully functional T cell and antibody responses against targeted cancers and pathogens. Inovio's most advanced clinical program, VGX-3100, is in Phase 3 development for the treatment of HPV-related cervical pre-cancer. Also in development are Phase 2 immuno-oncology programs targeting HPV-related cancers and GBM, as well as externally funded platform development programs in Zika, MERS, Lassa, and HIV. Partners and collaborators include ApolloBio Corporation, AstraZeneca, The Bill & Melinda Gates Foundation, Coalition for Epidemic Preparedness Innovations (CEPI), Defense Advanced Research Projects Agency, GeneOne Life Science, HIV Vaccines Trial Network, Medical CBRN Defense Consortium (MCDC), National Cancer Institute, National Institutes of Health, National Institute of Allergy and Infectious Diseases, Regeneron, Roche/Genentech, University of Pennsylvania,

Walter Reed Army Institute of Research, and The Wistar Institute. For more information, visit **www.inovio.com**.

This press release contains certain forward-looking statements relating to our business, including our plans to develop DNA medicines, our expectations regarding our research and development programs, as well as commercialization activities, including the planned initiation and conduct of clinical trials, the availability and timing of data from those trials and our commercialization strategy and tactics. 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, product development programs and commercialization activities and outcomes, 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, 2018, our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019, and other filings we make from time to time with the Securities and Exchange Commission. 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 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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