NEWS RELEASE

New Data from Phase 1/2 Trial of INO-3107 for the Treatment of Recurrent Respiratory Papillomatosis Presented at ABEA during COSM 2023

5/8/2023

- Oral presentation provided new combined safety and immunogenicity data from both cohorts (standard and side-port needles)

- Data indicates INO-3107 was well tolerated and has the potential to provide clinical benefit to adults with RRP

PLYMOUTH MEETING, Pa., May 8, 2023 /PRNewswire/ -- INOVIO (NASDAQ: INO), a biotechnology company focused on developing and commercializing DNA medicines to help treat and protect people from HPV-related diseases, cancer, and infectious diseases, presented new data from a Phase 1/2 trial of INO-3107 **(NCT:04398433)** for the treatment of HPV 6 and HPV 11-associated Recurrent Respiratory Papillomatosis (RRP) on May 5th as part of the scientific program of the American Broncho-Esophagological Association (ABEA) at the Combined Otolaryngology Spring Meetings (COSM) in Boston, Massachusetts. The COSM is a major national meeting of otolaryngologists/head and neck surgeons and incorporates the scientific programs of eight participating professional societies including the ABEA.

Dr. Ted Mau, lead investigator and laryngologist at University of Texas Southwestern Medical Center, presented the new data during an oral presentation at the conference.

"The additional data on INO-3107 presented demonstrate immunogenicity and potential for efficacy," said Dr. Mau. "INO-3107 reduced the need for surgical interventions for most trial participants – arguably the most important potential clinical benefit to patients living with this disease."

Dr. Jeffrey Skolnik, INOVIO's Senior Vice President of Clinical Development added: "The data set we've analyzed from this trial indicate that INO-3107 could potentially provide a life-changing alternative to the current standard of care for RRP. We are focused on moving this candidate forward as quickly as possible to realize its potential for

patients globally."

In February 2023, INOVIO announced positive preliminary results from the second (side port needle) cohort of its Phase 1/2 clinical trial evaluating INO-3107 for the treatment of HPV 6 and HPV 11-associated RRP in adults. Positive results from the first (standard needle) cohort were shared in October 2022. At COSM, Dr. Mau presented combined safety and immunogenicity data from both cohorts.

Safety highlights:

- INO-3107 was well-tolerated, with the most frequently reported treatment-emergent adverse events (TEAEs) related to administration, and all related TEAEs were low-grade
- Most commonly reported TEAEs: injection site pain (31%), fatigue (16%), and headache (13%)
- No treatment-related SAEs and no TEAEs led to treatment discontinuation

Immunological data highlights:

- Treatment with INO-3107 induced cellular responses against both HPV 6 and HPV 11, inducing both CD4+ and CD8+ T cells, including cytotoxic CD8 cells thought to be important for clearance of virally infected cell
- All 32 participants demonstrated an increase in at least one peripheral T cell assessment to one or more antigens in INO-3107 above levels prior to treatment
- T-cell responses against HPV 6 and HPV 11 were still observed at Week 52, which was 43 weeks after treatment with INO-3107, indicating persistent cellular memory response
- Additional analysis is ongoing to determine possible relationships between CD4+ and CD8+ T cell phenotypes and clinical outcome

Overall, 81.3% (26/32) patients had a decrease in surgical interventions in the year after INO-3107 administration versus the prior year, including 28.1% (9/32) that required no surgical intervention. Patients had a median range of 4 surgeries (2-8) in the year prior to dosing. After dosing, there was a median decrease of 3 surgical interventions (95% confidence interval -3, -2). In the trial, patients received four doses of INO-3107 on Day 0, and Weeks 3, 6, and 9. At the outset of the study (Day 0), patients could have RRP tissue surgically removed, but any surgery performed after Day 0 during the dosing window was counted against the efficacy endpoint.

The data presented at ABEA were also included in a peer-reviewed manuscript accepted for publication by The

Laryngoscope under the title "Interim Results of a Phase 1/2 Open-Label Study of INO-3107 for HPV-6 and/or HPV-11–Associated RRP." The Laryngoscope, in publication since 1896, is the official journal of the Triological Society (TRIO), the American Laryngological Association (ALA), and the ABEA.

About the Trial

INO-3107 was evaluated in a Phase 1/2 open-label, multicenter trial to assess its safety, tolerability, immunogenicity, and efficacy in 32 patients with HPV 6 and/or HPV 11-associated RRP (NCT:04398433). The first cohort included 21 patients - the second included 11. In the first cohort, patients were dosed with a standard needle, while in the second, an exploratory side port needle was used to deliver INO-3107. INOVIO plans to use the standard needle in the next trial involving INO-3107. In both cohorts, the proprietary CELLECTRA® electroporation device was used. The trial evaluated the reduction in the number of surgical interventions in the year following initial administration of INO-3107 compared to the year prior to treatment.

In both cohorts, patients received four doses of INO-3107 on Day 0, and Weeks 3, 6, and 9. At the outset of the study (Day 0), patients could have RRP tissue surgically removed, but any surgery performed after Day 0 during the dosing window was counted against the efficacy endpoint. Per protocol, a surgical intervention was defined as any removal of papilloma tissues, whether in hospital or in the clinic, using either general or local anesthesia, with any modality of removal.

About RRP

RRP is a debilitating and rare disease caused primarily by HPV-6 and/or HPV-11. RRP is characterized by the development of small, wart-like growths, or papillomas, in the respiratory tract. While papillomas are generally benign, they can cause severe, life-threatening airway obstruction and respiratory complications. RRP can also significantly affect quality of life for patients by affecting the voice box, limiting the ability to speak effectively. Surgery to remove papillomas is the standard of care for RRP; however, the papillomas often grow back because the underlying HPV infection has not been eradicated.

The most widely cited U.S. epidemiology data from 1995 cites 14,000 active cases and about 1.8 per 100,000 new cases in adults each year. More recent pediatric epidemiology data cites a range of 0.5 - 0.7 per 100,000 new cases in children in the US each year.

About INO-3107

INO-3107 is INOVIO's clinical-stage DNA medicine product candidate being developed as a potential treatment for RRP. INO-3107 is designed to elicit a targeted T cell response against HPV-6 and HPV-11, the HPV types responsible

for causing RRP among other HPV-related diseases. These targeted T cells are designed to seek out and kill infected cells, with the aim of potentially preventing or slowing the growth of new papillomas. INO-3107 **received** Orphan Drug Designation from the U.S. Food and Drug Administration (FDA) in July 2020. For more information about our HPV franchise, please visit **https://ir.inovio.com/events-and-presentations/default.aspx**

About INOVIO

INOVIO is a biotechnology company focused on developing and commercializing DNA medicines to help treat and protect people from HPV-related diseases, cancer, and infectious diseases. INOVIO's DNA medicines in development are delivered using its investigational proprietary smart device, CELLECTRA®, to produce immune responses against targeted pathogens and cancers. For more information, visit **www.inovio.com**.

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Forward-Looking Statements

This press release contains certain forward-looking statements relating to our business, including our plans to develop and commercialize DNA medicines and 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. 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 medicines, our ability to support our pipeline of DNA medicine 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 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, 2022 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 the 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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