NEWS RELEASE

Data from Phase 1b trial with INO-4201 as an Ebola Booster for rVSV-ZEBOV (Ervebo®) presented at ECCMID 2023

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Oral presentation introduced new humoral and cellular response data indicating potential ability of INO-4201 to generate robust immune response and protect against Zaire ebolavirus

PLYMOUTH MEETING, Pa., April 17, 2023 /PRNewswire/ -- INOVIO (NASDAQ: INO), a biotechnology company focused on developing and commercializing DNA medicines to help treat and protect people from HPV-associated diseases, cancer, and infectious diseases, today announced that data from a Phase 1b trial evaluating INO-4201 as an Ebola booster vaccine candidate for rVSV-ZEBOV (Ervebo) (**NCT04906629**) was presented at the 33rd European Congress of Clinical Microbiology and Infectious Diseases (ECCMID). Dr. Angela Huttner, Infectious Disease Consultant, Geneva University Hospitals, and lead investigator for the trial, gave the oral presentation.

"Preliminary data showed that INO-4201 was well tolerated and produced a strong immune response," said Dr. Huttner. "This suggests that a booster dose of IN0-4201 has the potential to extend protection against Ebola and could be an important tool in future Ebola Virus Disease prevention."

"We are pleased with the data presented at ECCMID from the recently completed Phase 1b study, including new data that further demonstrates the potential for INO-4201 to be an important part of global infectious disease countermeasures," stated Dr. Laurent Humeau, INOVIO's Chief Scientific Officer.

In February 2023, INOVIO announced positive initial results from the Phase 1b trial that evaluated INO-4201 as a booster in healthy adult participants who previously received a single injection of Ervebo. These initial results showed that INO-4201 was well-tolerated and boosted humoral responses in 100% (36 of 36) of treated participants. Today, the full data set was presented at ECCMID, including new humoral and cellular response data that indicates the potential of INO-4201 to restore antibody titers to levels thought to be required to provide protection against Zaire ebolavirus infection. These new data include the assessment of binding antibodies showing

that all 36 vaccine recipients responded to the boost:

- Binding antibodies were assessed via ELISA at the Galveston National Laboratory, using an assay designed by director Dr. Gary Kobinger.

- Geometric mean titers (GMT) at baseline were lower in vaccine recipients than in placebo recipients (157.8 [95% CI 87.2-285.5] versus 712.7 [388.0-1309.3], p=.022). In vaccine recipients, however, GMTs rose significantly after boosting for each time point measured, peaking at week 2 (GMT 1514.8 [95% CI 1215-1888.0] versus 578.5 [95% CI 262.0-1278.9] p=.002) and remaining significantly higher at week 4 (1236.5 [957.9-1596.0] versus 670.0 [CI 95% 347.3-1292.4], p=.029).

- Mean neutralizing antibody titers in vaccine recipients rose from 23.4 [95% CI -12.5-23.6] to 62.8 [95% CI 23.6-101.9] by week 4 and remained high and constant until the end of the 24-week trial period (50.4 [95% CI 15.1-85.8). Neutralizing antibodies were assessed with EBOV GP pseudo-typed particles.

- Cellular responses observed in participants included an increase in Th1 cytokine production (IFNγ, IL2, TNFa) from CD4+ and CD8+ T cells following boost with INO-4201.

The Phase 1b trial for INOVIO's vaccine candidate, INO-4201, was spearheaded by Global Urgent and Advanced Research and Development (GuardRX), sponsored by Geneva University Hospitals, and funded by the U.S. Defense Advanced Research Projects Agency.

About INO-4201

INO-4201 is INOVIO's DNA vaccine targeting Zaire Ebola virus (ZEBOV) glycoprotein (GP), designed to prevent ZEBOV infection. INO-4201 encodes for a synthetic consensus antigen that encompasses ZEBOV genetic variability from various outbreak strains to broaden immune coverage for divergent ZEBOV virus variants.

About Ebola Virus Disease

The Ebola virus family includes four virus species that cause periodic outbreaks of a highly contagious and lethal human infectious disease – called Ebola Virus Disease (EVD). The virus is transmitted from wild animals to people then easily spreads via human-to-human transmission. Disturbingly, new research suggests dormant Ebola virus in a previously infected survivor could re-emerge up to nearly 5 years later and again allow human-to-human transmission. Ebola virus is classified as a Category A Priority Pathogen by the U.S. Centers for Disease Control and Prevention (CDC). This designation indicates a national security risk, and the U.S. FDA has an accelerated development approval pathway for vaccines against such pathogens. Also, the World Health Organization (WHO) continues to list Ebola Virus Disease as a priority for research and development in emergency contexts and

coordinates planning to prevent and respond to Ebola epidemics.

About INOVIO

INOVIO is a biotechnology company focused on developing and commercializing DNA medicines to help treat and protect people from HPV-associated 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**.

About GuardRX

Established in 2018, GuardRX executes preclinical and clinical development strategies on prophylactic and therapeutic products for neglected diseases. GUARD is a non-profit, non-governmental organization whose goal is to bring prophylactic and therapeutic products that do not have a traditional commercialization pathway. GUARD is committed to facilitating the availability of lifesaving products to the global community including in the event of an infectious disease emergency. GUARD expertise includes preclinical and clinical development of vaccines and therapeutics, regulatory submissions and production of cGMP material; humoral immune responses evaluation using tailored sensitive plate-based ELISA; establish & standardize new diagnostics protocols; submission to appropriate regulatory agencies for Therapeutic Products and Institutional Review Boards (IRBs); production of study final reports, and award data management.

GUARD's main objective is to accumulate clinical data packages within rigorous regulatory processes to support further clinical progression or long-term solutions to orphan diseases for the betterment of the global population. For more information, visit **www.guardrx.org**.

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Forward-Looking Statement

This press release contains certain forward-looking statements relating to our business, including the potential of our DNA vaccine candidates. 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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