IMUNON Presentation at World Vaccine & Immunotherapy Congress Highlights PLACCINE Preclinical Proof of Concept and Key Competitive Advantages

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LAWRENCEVILLE, N.J., Dec. 01, 2022 (GLOBE NEWSWIRE) -- IMUNON, Inc. (NASDAQ: IMNN), a clinical-stage drug development company, announces that Khursheed Anwer, Ph.D., the company's Executive Vice President and Chief Science Officer, presented today at the World Vaccine & Immunotherapy Congress in San Diego. Dr. Anwer highlighted the PLACCINE modality and proof-of-concept rodent and non-human primate data in SARS-CoV-2. PLACCINE is IMUNON's non-viral, non-device plasmid DNA-based vaccine modality targeting multiple antigens from a single vector.

Dr. Anwer reviewed evidence of immunological response and efficient viral clearance from biological tissue following SARS-CoV-2 challenge studies in vaccinated cynomolgus monkeys and mice. These responses were observed in the company's single and bivalent SARS-CoV-2 PLACCINE vaccines. In addition, the data presented showed that IMUNON's plasmid DNA vaccine yielded comparable yet more durable antigen expression than either the protein or a commercial mRNA vaccine. In the mouse model, the duration of immune response continued for at least eight months following vaccination.

Analysis of blood samples for IgG and neutralizing antibodies showed evidence of immunogenicity in both PLACCINE- and mRNA-vaccinated subjects. PCR analysis of bronchoalveolar lavage showed viral clearance by >90% of the non-vaccinated controls. In a majority of vaccinated animals, viral clearance from nasal swab followed a similar pattern and a similar clearance profile was observed when viral load was analyzed by the tissue culture infectious dose method.

In an ongoing stability study, the physio-chemical properties and immunogenicity of PLACCINE vaccine did not change during storage at 4° C for up to six months. Slides from Dr. Anwer's presentation are available [here].

"PLACCINE represents a new class of vaccines that do not require a viral vector, a device or lipid nanoparticles for delivery. We are delighted to share preclinical proof of concept along with highlighting key competitive advantages to a global audience of vaccine and immunotherapy leaders," said Dr. Corrine Le Goff, IMUNON's President and Chief Executive Officer. "The data Dr. Anwer presented demonstrate that our PLACCINE vaccine is effective in a SARS-CoV-2 model, and that PLACCINE vaccines have potential advantages over current vaccines including breadth and durability of immune response, transmission advantage, storage stability and manufacturing flexibility."

About the PLACCINE Platform

PLACCINE, part of IMUNON's proprietary nucleic acid technology with synthetic delivery systems platform, is the subject of multiple patent applications that cover a broad range of next-generation nucleic acid vaccines. An adaptation of the company's TheraPlas technology for therapeutic proteins, PLACCINE is a modality for prophylactic vaccines characterized by a single nucleic acid vector with multiple coding regions. The vaccine vector is designed to express multiple pathogen antigens along with the option to include a potent immune modifier. PLACCINE has potential to be easily modified to create vaccines against a multitude of infectious diseases, with benefits including:

- **Durability of protection** – Durable antigen expression induces robust immunological response
- **Breadth of protection** – Multi-cistronic vectors increase the breadth of immune response and allows for combination vaccines
- **Transmission advantage** – Option for co-expression of potent immune modifiers increases the immune response and lowers the risk of viral shedding; Strong cytotoxic T-cell response associated with DNA vaccines is conducive to efficient clearance of virally-infected cells
- **Safe and convenient** – Synthetic delivery systems present no risk of genotoxicity (i.e., no virus involvement) and require no device; it also allows for convenient handling for pandemic control
- **Flexible manufacturing** – Versatile platform enables rapid response to changing pathogens; stability at normal refrigerator temperatures simplifies handling and distribution

About IMUNON, Inc.

IMUNON is a fully integrated, clinical-stage biotechnology company focused on advancing a portfolio of innovative treatments that harness the body's natural mechanisms to generate safe, effective and durable responses across a broad array of human diseases, constituting a differentiating approach from conventional therapies.

IMUNON has two platform technologies: the TheraPlas modality for the development of immunotherapies and other anti-cancer nucleic acid-based therapies, and the PLACCINE modality for the development of nucleic acid vaccines for infectious diseases and cancer. The company's lead clinical program, GEN-1, is a DNA-based immunotherapy for the localized treatment of advanced ovarian cancer currently in Phase II development. GEN-1 works by instructing the body to produce safe and durable levels of powerful cancer-fighting molecules, such as interleukin-12 and interferon gamma, at the tumor site. Additionally, the company is conducting preclinical proof-of-concept studies to validate its PLACCINE modality by using a vaccine design comprising a single plasmid DNA molecule containing a sequence encoding more than one of the SARS-CoV-2 spike antigen variants. IMUNON's platform technologies are based on the delivery of nucleic acids with novel synthetic delivery systems that are independent of viral vectors or devices. IMUNON will continue to leverage these modalities and to advance the technological frontier of plasmid DNA to better serve patients with difficult-to-treat conditions. For more information, visit www.IMUNON.com.

Forward-Looking Statements

IMUNON wishes to inform readers that forward-looking statements in this news release are made pursuant to the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Readers are cautioned that such forward-looking statements involve risks and uncertainties including, without limitation, unforeseen changes in the course of research and development activities and in clinical trials; the uncertainties of and difficulties in analyzing interim clinical data; the significant expense, time and risk of failure of conducting clinical trials; the need for IMUNON to evaluate its future development plans; possible acquisitions or licenses of other technologies, assets or businesses; possible actions by customers, suppliers, competitors or regulatory authorities; and other risks detailed from time to time in IMUNON's periodic reports and prospectuses filed with the Securities and Exchange Commission. IMUNON assumes no obligation to update or supplement forward-looking statements that become untrue because of subsequent events, new information or otherwise.

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