Preclinical Data Showing Strong Immunogenicity and Protection with IMUNON's PlaCCine DNA-Based Vaccines Modality Available Online on bioRxiv

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LAWRENCEVILLE, N.J., Aug. 07, 2023 (GLOBE NEWSWIRE) -- IMUNON, Inc. (NASDAQ: IMNN), a clinical-stage drug-development company focused on developing non-viral DNA-mediated immunotherapy and next-generation vaccines, announces that a manuscript titled "Strong immunogenicity & protection in mice with PlaCCine: A COVID-19 DNA vaccine formulated with a functional polymer," is available on the preprint server bioRxiv [here]. The study used IMUNON's proprietary formulation against the spike proteins from two SARS-CoV-2 variants, both alone and in combination. These results add to the growing body of preclinical data confirming the efficacy and superior desirable features of the IMUNON's PlaCCine vaccine modality.

Data from the study show:

- IMUNON's proprietary formulation of functionalized polymer protected DNA from degradation, while the combination with an adjuvant led to an increase in protein expression.
- DNA formulated with PlaCCine resulted in a DNA vaccine product that was stable for up to one year at 4°C.
- DNA formulated in PlaCCine resulted in the induction of spike-specific neutralizing antibodies and cytotoxic T cells.
- In the *in vivo* challenge model, the vaccine-induced immune response was capable of suppressing viral replication.
- Multiple inserts can be cloned into the PlaCCine backbone (a plug-and-play strategy), therefore allowing for an immune response with broader protection.

"We are delighted our manuscript was selected for preprint and that the findings are now available to the scientific community," said Dr. Corinne Le Goff, president and chief executive officer of IMUNON. "Data from this murine study confirm PlaCCine's potential to address SARS-CoV-2 pathogens and mutations both as a primary vaccine and as a booster. We expect that the plug-and-play capability we demonstrated, along with the ability to incorporate multiple antigens in a single plasmid, will be valuable in formulating a seasonal vaccine. Importantly, a vaccine that is stable at standard refrigerated temperatures for up to a year holds great commercial promise, especially in geographies lacking the infrastructure to support the special handling needs of mRNA vaccines."

"We are looking forward to commencing a human clinical trial with PlaCCine in SARS-CoV-2 during the first quarter of 2024," Dr. Le Goff added.

The Company plans to submit the manuscript for publication in a peer-reviewed journal in the coming weeks.

About IMUNON

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 is developing its non-viral DNA technology across four modalities. The first modality, TheraPlas®, is developed for the coding of proteins and cytokines in the treatment of solid tumors where an immunological approach is deemed promising. The second modality, PlaCCine® is developed for the coding of viral antigens that can elicit a strong immunological response. This technology may represent a promising platform for the development of vaccines in infectious diseases. The third modality, FixPlas®, concerns the application of our DNA technology to produce universal cancer vaccines, also called tumor associated antigen cancer vaccines. The fourth modality, which is in the discovery phase, IndiPlas®, will focus on the development of personalized cancer vaccines, or neoepitope cancer vaccines.

The Company's lead clinical program, IMNN-001, is a DNA-based immunotherapy for the localized treatment of advanced ovarian cancer currently in Phase 2 development. IMNN-001 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 IND-enabling preclinical studies for the development of a COVID-19 booster vaccine: IMNN-101. The Company has also initiated preclinical work to develop a Trp2 tumor associated antigen cancer vaccine in melanoma: IMNN-201. We 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 on IMUNON, 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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