Celsion Corporation Files Provisional U.S. Patent Application for a Broad Range of Next Generation DNA Vaccines

January 28, 2021

The PLACCINE Platform Technology is Conceived to Enable Rapid Development of Vaccines That Can Address a Broad Range of Infectious Agents, including SARS-Associated Coronavirus (SARS-CoV)

Patent Filing Claims a Novel Composition of Multiple Antigens and Use of a Synthetic Nano Delivery Technology Platform for Preventing and Clearing Infectious Agents

LAWRENCEVILLE, N.J., Jan. 28, 2021 (GLOBE NEWSWIRE) -- Celsion Corporation (NASDAQ: CLSN), a clinical stage biotechnology company, in response to the long-term threat of coronaviruses and other potential pandemic causing infectious agents, today announced the filing of a provisional U.S. patent application for a novel DNA-based, investigational vaccine for preventing or treating infections from a broad range of infectious agents including the coronavirus disease using its PLACCINE DNA vaccine technology platform. The provisional patent covers a family of novel composition of multi-cistronic vectors and polymeric nanoparticles that comprise the PLACCINE DNA vaccine platform technology for preventing or treating infectious agents that have the potential for global pandemics, including the SARS-CoV-2 virus and its variations, using the Company's platform technology. PLACCINE is a natural extension of the Company's synthetic, non-viral TheraPlas delivery technology currently in a Phase II trial for the treatment of late-stage ovarian cancer with GEN-1, Celsion's DNA-mediated IL-12 immunotherapy.

Celsion's vaccine approach is designed to optimize the quality of the immune response dictating the efficiency of pathogen clearance and patient recovery. Celsion has taken a multivalent approach in an effort to generate an even more robust immune response that not only results in a strong neutralizing antibody response, but also a more robust and durable T-cell response. Delivered with Celsion's synthetic polymeric system, the proprietary DNA plasmid is protected from degradation and its cellular uptake is facilitated.

Khursheed Anwer, Ph.D., Executive Vice President and Chief Scientific Officer at Celsion, said, "This patent, if granted, provides protection to expand upon our synthetic, non-viral TheraPlas delivery technology to produce potentially broad and long-lasting robust antibody-mediated protection against infectious agents with pandemic potential, coupled with a simultaneous expression of IL-12, an essential regulator of the differentiation, proliferation and maintenance of T helper 1 cells. These cells lead to the generation of killer T-cells and memory T-cells against virally infected cells that may boost the viral clearance provided by the vaccine and improve the memory of the immune system against any future exposure to the same virus and maintain robust immunity in the face of future mutations."

Celsion's proprietary multifunctional DNA vaccine technology concept is built on the flexible PLACCINE technology platform that is amenable to rapidly responding to the SARS-CoV-2 virus, as well as possible future mutations of SARS-CoV-2, other future pandemics, emerging bioterrorism threats, and novel infectious diseases. Celsion's extensive experience with TheraPlas suggests that the PLACCINE-based nanoparticles are stable at storage temperatures of 4^{o}C to 25^{o}C, making vaccines developed on this platform easily suitable for broad world-wide distribution.

Michael H. Tardugno, Celsion's Chairman, President and Chief Executive Officer, noted that "Celsion's PLACCINE DNA vaccine technology platform is characterized by a single plasmid DNA with multiple coding regions. The plasmid vector is conceived to express multiple pathogen antigens along with a potent immune modifier. It is delivered via a synthetic delivery system and has the potential to be easily adaptable to create vaccines against a multitude of pathogens, including emerging pathogens leading to pandemics and those infectious diseases that cannot be addressed by current technologies due to poor efficiency."

About Celsion Corporation

Celsion is a fully integrated, clinical stage biotechnology company focused on advancing a portfolio of innovative cancer treatments, including immunotherapies, DNA-based therapies and directed chemotherapies through clinical trials and eventual commercialization. The Company's product pipeline includes GEN-1, a DNA-based immunotherapy for the localized treatment of ovarian cancer. ThermoDox®, a proprietary heat-activated liposomal encapsulation of doxorubicin, is under review for continued patient Overall Survival following a futility assessment by the independent Data Management Committee in its Phase III study of primary liver cancer. ThermoDox® is also under investigator-sponsored development for other cancer indications. Celsion has two feasibility stage platform technologies for the development of novel nucleic acid-based immunotherapies and other anti-cancer DNA or RNA therapies. Both are novel synthetic, non-viral vectors with demonstrated capability in nucleic acid cellular transfection. For more information on Celsion, visit: http://www.celsion.com.

Forward-looking Statements

Forward-looking statements in this news release are made pursuant to the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These statements are based upon current beliefs, expectation, and assumptions and include statements regarding the platform having the potential to provide broad protection against COVID-19, and possible future mutations of SARS-CoV-2 or other coronaviruses. These statements are subject to a number of risks and uncertainties, many of which are difficult to predict, including the ability of the Company's platform to provide broad protection against COVID-19, and possible future mutations of SARS-CoV-2 or other coronaviruses, the issuance of a patent to the Company for use of its technology platform for treating or preventing infection with the SARS-CoV-2 virus that causes coronavirus disease 2019 (COVID-19), unforeseen changes in the course of research and development activities and in clinical trials; the uncertainties of and difficulties in analyzing interim clinical data, particularly in small subgroups that are not statistically significant; FDA and regulatory uncertainties and risks; the significant expense, time and risk of failure of conducting clinical trials; the need for Celsion 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 the Celsion's periodic filings with the Securities and Exchange Commission. Celsion 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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