Celsion GmbH Announces the Publication of an Article Reviewing the History of ThermoDox® Drug Development in Advanced Drug Delivery Reviews

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Investigator-Sponsored Research with ThermoDox® Continues in Multiple Indications

New Support for ThermoDox®'s Potential from the National Institutes of Health under a Cooperative Research and Development Agreement

ZUG, Switzerland, Oct. 11, 2021 (GLOBE NEWSWIRE) -- Celsion GmbH, a wholly owned subsidiary of **Celsion Corporation (NASDAQ: CLSN)**, a clinical-stage biotechnology company focused on DNA-based immunotherapy and next-generation vaccines, announces the journal *Advanced Drug Delivery Reviews* has published an article reviewing the history of ThermoDox®, from animal studies through to the Phase III OPTIMA Study in advanced liver cancer. Titled "*Drug development of lyso-thermosensitive liposomal doxorubicin: Combining hyperthermia and thermosensitive drug delivery,*" the article was authored by Nicholas Borys, M.D., Executive Vice President and Chief Medical Officer of Celsion, and Mark W. Dewhirst, D.V.M., Ph.D., the Gustavo S. Montana Professor of Radiation Oncology and Vice Director for Basic Science of the Duke Cancer Institute at Duke University School of Medicine, and is available [here/link].

ThermoDox® features a novel mechanism of action that delivers high concentrations of doxorubicin to a region targeted with the application of localized heat at 40°C, just above body temperature. ThermoDox® is positioned for use with multiple heating technologies and has the potential to treat a broad range of cancers including metastatic liver, recurrent chest wall breast cancer and non-muscle invading bladder cancers. The article's authors noted that ThermoDox® is the first heat-activated formulation of a liposomal drug carrier to be utilized in human clinical trials.

According to Dr. Borys, "As our recent paper in *Advanced Drug Delivery Reviews* points out there was much learned regarding the application of ThermoDox with heat technology. The publication of this article helps to educate clinical researchers about the compelling results in early-stage studies we have achieved in multiple oncology targets (notably bladder and brain) during our years of work with ThermoDox®, which may catalyze further investigation. While Celsion made a business decision to focus the company on other promising programs targeting important indications such as ovarian cancer and infectious diseases, I am pleased that Celsion GmbH will provide support for ThermoDox's continued clinical evaluation and development. The work that is being initiated with the NIH is exciting and should open new paths of opportunity for ThermoDox."

Dr. Dewhirst added, "It is good to see important work continuing with ThermoDox®. As heat delivery technology continues to improve, such as HIFU (High Intensity Focused Ultrasound), along with the availability of bladder heating technologies there is much potential for ThermoDox in a number of cancers, including the bladder or even the brain. The collaboration between the NIH and Celsion on ThermoDox® is an exciting step toward better therapies for patients with cancer."

Celsion GmbH is also announcing a new Cooperative Research and Development Agreement (CRADA) with the National Institutes of Health (NIH) to evaluate ThermoDox® in two *in vivo* studies:

- Evaluation of ThermoDox® deployment in the rectal mucosa with endorectal heating. This preclinical study in a swine model seeks to explore the feasibility of the maximum tolerated dose of intravenous ThermoDox® administration with endorectal heating of mucosa to assess the feasibility, depth of penetration and drug levels in the acute setting.

- Evaluation of ThermoDox® deployment in the bladder mucosa with endo-cavitary bladder heating. This preclinical study, also in a swine model, is intended to identify the feasibility of ThermoDox® for bladder mucosal delivery utilizing a standard commercial bladder heating devices. To augment standard regimens, intra-cavitary mitomycin C will be co-administered with intravenous ThermoDox®, along with heated bladder fluid in a closed circuit, in a regimen that simulates potential future clinical use.

Andreas Voss, M.D., Managing Director of Celsion GmbH, added, "This publication provides a comprehensive summary of the development of ThermoDox® to date. While clinical studies in the first indication did not reveal its benefits the powerful proof of concept in vivo provides a strong rationale for the continued clinical development of ThermoDox®. The ongoing preclinical and clinical studies will guide us towards clinical indications in which ThermoDox® improves patient's lives.

"In addition, I am highly encouraged by the interest shown to date by independent clinical researchers in investigating ThermoDox®. The ability to safely deliver a potent yet toxic chemotherapeutic agent such as doxorubicin warrants such further work to identify the most promising targets. We are delighted the NIH also believes in the potential benefit of this work. While Celsion GmbH's long-term objective is to seek partnerships to maximize the promise of ThermoDox®, our overarching goal is to provide novel treatment options for patients with cancer."

ThermoDox® is currently the subject of investigator-sponsored trials for several cancer indications, including:

- A Phase I study led by the University Medical Center Utrecht in the Netherlands to determine the safety, tolerability and feasibility of ThermoDox® in combination with Magnetic Resonance Guided High Intensity Focused Ultrasound

hyperthermia and cyclophosphamide therapy for the local treatment of the primary tumor in metastatic breast cancer.

- A Phase I study led by Oxford University in the UK to assess intravenous delivery of ThermoDox® in combination with High Intensity Focused Ultrasound in pancreatic cancer.

About Celsion GmbH

Celsion GmbH is a wholly owned subsidiary of Celsion Corporation. Based in Zug, Switzerland, its mission is to facilitate investigator-led studies of ThermoDox®, including clinical research conducted by the NIH through its Cooperative Research and Development Agreement, maintain relationships with scientists and clinicians and seek opportunities for third party funding. ThermoDox®, is a proprietary heat-activated liposomal encapsulation of doxorubicin, is under investigator-sponsored development for several cancer indications. For more information on Celsion GmbH, visit www.celsiongmbh.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 coronavirus disease 2019 (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 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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