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Celsion Presents Compelling Data at AACR 2016 Demonstrating Synergistic Anti-Cancer Effect of GEN-1 IL-12 Immunotherapy Plus Avastin® and Doxil®

Preclinical Studies Demonstrate a 98% Reduction in Tumor Burden Compared to Control Celsion Plans to Initiate Clinical Trials this Year to Evaluate the 3-Way Combination in Recurrent Platinum Resistant Ovarian Cancer Patients

LAWRENCEVILLE, N.J., April 19, 2016 /PRNewswire/ -- Celsion Corporation (NASDAQ: CLSN), an oncology drug development company, today announced that preclinical data for GEN-1 in combination with Avastin® and Doxil® was presented at the American Association for Cancer Research (AACR) Annual Meeting 2016 in New Orleans. GEN-1 is an IL-12 DNA plasmid vector formulated into a nanoparticle with a non-viral delivery system to cause the sustained local production and secretion of the Interleukin-12 (IL-12) protein loco-regionally to the tumor site. The full poster presentation can be found on Celsion's website at www.celsion.com.

The poster, entitled "Interleukin-12 Gene Therapy in Combination with Bevacizumab and PEGylated Liposomal Doxorubicin for Treatment of Disseminated Ovarian Cancer", highlighted results from a preclinical study evaluating GEN-1 combined with Avastin® and Doxil® in a SKOV3 human cell line implanted into immunocompromised (nude) mice compared to control. The results showed that the combination resulted in a statistically significant reduction of tumor burden of greater than 98% compared to control, and a statistically significant 92% reduction in tumor burden compared to Avastin® plus Doxil® alone. In contrast, Avastin® and GEN-1 produced a 39% and 50% reduction in tumor burden, respectively. The combination of GEN-1 with Avastin® and Doxil® was well-tolerated with no systemic toxicities.

These preclinical data are consistent with the mechanism of action for GEN-1, which exhibits certain anti-angiogenic properties in addition to its well-characterized immunomodulatory activities.

"These remarkable preclinical results underscore the synergistic activity of GEN-1 and Avastin® plus Doxil®, with dramatic reductions in tumor volume compared to either therapy alone. The data from this trial, together with the scientific rationale for our approach, reinforce our confidence in the potential of this combination to improve outcomes for patients with platinum-resistant ovarian cancer," said Khursheed Anwer, PhD, executive vice president and chief science officer of Celsion.

The poster also reviews clinical data from a dose-escalation study evaluating GEN-1 plus Doxil® in platinum resistant ovarian cancer (the GOG study). In the GOG study, at the highest dose level, GEN-1 plus Doxil® produced an objective response rate (ORR) of 29%. This compares favorably to the data from the Phase 3 AURELIA trial in platinum-resistant ovarian cancer, which demonstrated that Avastin® plus chemotherapy produced an ORR of 27%. Historical data for trials evaluating Doxil® monotherapy in platinum resistant ovarian cancer suggest ORR of only 8% to 12%.

"Our product development strategy for GEN-1 has been reinforced by the recent FDA approval of Avastin® as a treatment for platinum-resistant ovarian cancer coupled with our recent clinical results using GEN-1 plus Doxil® and three strongly supportive preclinical studies that have consistently shown improved outcomes when GEN-1 is combined with standard of care chemotherapy and Avastin®," said Michael H. Tardugno, Celsion's chairman, president and CEO. "We are now completely focused on evaluating this combination in the clinical setting, and look forward to initiating a Phase I/II trial with the goal of evaluating how the synergistic anti-cancer effects of GEN-1 together with Avastin® and Doxil® may improve response rates in platinum-resistant ovarian cancer."

The Company is currently enrolling patients in the OVATION Study, a Phase 1b dose escalating trial combining GEN-1 with neo-adjuvant therapies in newly diagnosed ovarian cancer patients, which will provide a starting dose for the follow-on Phase I/II study combining GEN-1 with Avastin® and Doxil®. The Phase I/II combination trial is expected to begin in fourth quarter of 2016.

About GEN-1 Immunotherapy

GEN-1, designed using Celsion's proprietary TheraPlas™ platform technology, is an IL-12 DNA plasmid vector encased in a nanoparticle delivery system, which enables cell transfection followed by persistent, local secretion of the IL-12 protein. IL-

12 is one of the most active cytokines for the induction of potent anti-cancer immunity acting through the induction of T-lymphocyte and natural killer (NK) cell activation and proliferation. The Company has previously reported positive safety and encouraging Phase I results with GEN-1 given as monotherapy in patients with peritoneally metastasized ovarian cancer, and recently completed a Phase Ib trial of GEN-1 in combination with PEGylated doxorubicin in patients with platinum-resistant ovarian cancer.

About Celsion Corporation

Celsion is a fully-integrated oncology company focused on developing a portfolio of innovative cancer treatments, including directed chemotherapies, immunotherapies and RNA- or DNA-based therapies. The Company's lead program is ThermoDox®, a proprietary heat-activated liposomal encapsulation of doxorubicin, currently in Phase III development for the treatment of primary liver cancer and in Phase II development for the treatment of recurrent chest wall breast cancer. The pipeline also includes GEN-1, a DNA-based immunotherapy for the localized treatment of ovarian and brain cancers. Celsion has two platform technologies for the development of novel nucleic acid-based immunotherapies and other anti-cancer DNA or RNA therapies, including TheraPlas™ and TheraSilence™. For more information on Celsion, visit our website: <http://www.celsion.com>. (CLSN-G1) (CLSN-OV)

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