

April 17, 2019



OncoSec Announces Collaborative Research Agreement in HER2+ Breast Cancer Evaluating the Use of TAVO™ in Combination with Plasmid DNA Vaccines with a World Leading Academic Medical Center

Program Will Use OncoSec's New Apollo Generator to Evaluate TAVO™ in Combination with Plasmid DNA Vaccines for HER2+ Breast Cancers

SAN DIEGO and PENNINGTON, N.J., April 17, 2019 /PRNewswire/ -- OncoSec Medical Incorporated (OncoSec) (NASDAQ: ONCS), a company developing intratumoral cancer immunotherapies, and Duke University School of Medicine, today announced that they have entered into a collaborative research agreement to evaluate the use of OncoSec's proprietary TAVO^{PLUS} (enhanced IL-12 DNA-plasmid) in combination or sequence with a HER2-plasmid vaccine administered with OncoSec's novel intratumoral delivery system. The research will be led by Herbert Kim Lyerly, M.D., George Barth Geller Professor, Professor of Immunology, Surgery and Pathology at Duke University School of Medicine.

"We are eager to expand our immunotherapy research in breast cancer through this collaboration with OncoSec. We have previously demonstrated, in a variety of breast cancer models, that local delivery of IL-12 stimulates an anti-breast cancer immune response with applicability beyond end-stage cancer. This delivery system has the potential to be a foundational therapeutic in the treatment of early-stage disease," said Dr. Lyerly. "The translational work with TAVO^{PLUS} has been very encouraging and we are excited to explore the potential of OncoSec's IL-12 plasmid delivery technology to enhance immune responses targeting HER2⁺ tumors and to elicit superior T-cell and B-cell responses to HER2 in a variety of preclinical breast cancer models."

Under the terms of the agreement, OncoSec will provide its proprietary TAVO (IL-12 plasmids) and its new electroporation generator, APOLLO, using lower voltage and a longer pulse width which greatly increased DNA-plasmid cellular transfection rates, to Duke University's Center for Applied Therapeutics. Duke University investigators will conduct preclinical studies using plasmid vaccines targeting HER2 in combination with plasmid vaccines and TAVO in a newly developed endogenous mouse model of HER2⁺ breast cancer. Additionally, Duke investigators will use TAVO with their high-intensity ultrasound tumor ablation models to explore the impact of IL-12 delivery on the development of systemic immunity.

About OncoSec Medical Incorporated

OncoSec is a clinical-stage biotechnology company focused on developing cytokine-based intratumoral immunotherapies to stimulate the body's immune system to target and attack cancer. OncoSec's lead immunotherapy investigational product candidate – TAVO™ (tavokinogene telseplasmid) – enables the intratumoral delivery of DNA-based interleukin-12 (IL-12), a naturally occurring protein with immune-stimulating functions. The technology, which employs electroporation, is designed to produce a controlled, localized expression of IL-12 in the tumor microenvironment, enabling the immune system to target and attack tumors throughout the body. OncoSec has built a deep and diverse clinical pipeline utilizing TAVO™ as a potential treatment for multiple cancer indications either as a monotherapy or in combination with leading checkpoint inhibitors; with the latter potentially enabling OncoSec to address a great unmet medical need in oncology: anti-PD-1 non-responders. Results from recently completed clinical studies of TAVO™ have demonstrated a local immune response, and subsequently, a systemic effect as either a monotherapy or combination treatment approach. In addition to TAVO™, OncoSec is identifying and developing new DNA-encoded therapeutic candidates and tumor indications for use with its ImmunoPulse® platform. For more information, please visit www.oncosec.com.

ImmunoPulse® is a registered trademark of OncoSec Medical Incorporated.

TAVO™ trademark of OncoSec Medical Incorporated.

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