

OncoSec Announces Research Collaboration with Roswell Park Comprehensive Cancer Center Using Cutting-Edge Intravital Microscopy (IVM), TAVO-PLUS and APOLLO™ Electroporation Generator

IVM is a powerful tool enabling real-time in vivo visualization of important immune activation and movements in tumor microenvironment driven by TAVO-PLUS

SAN DIEGO, and PENNINGTON, N.J., June 17, 2019 /PRNewswire/ -- OncoSec Medical Incorporated (OncoSec) (NASDAQ: ONCS), a company developing intratumoral cancer immunotherapies, today announced that it has initiated a research collaboration with Roswell Park Comprehensive Cancer Center to evaluate the use of Roswell Park's intravital microscopy (IVM) and OncoSec's proprietary plasmid, TAVO^{PLUS}, in combination with the Company's recently announced APOLLO™ electroporation generator in preclinical studies. The collaboration will be led by [Joseph Skitzki, MD, FACS](#), Associate Professor of Immunology, Associate Professor of Surgery and Chair of the Melanoma/Sarcoma Disease Site Research Group at Roswell Park.

Intravital microscopy is a powerful tool that has provided unprecedented real time access to visualize and record molecular, cellular, anatomical function, providing insights into the immune activity within the tumor microenvironment. Data uncovered with the technique used in this collaboration will reveal a deeper understanding and possible new approaches to treatment with TAVO^{PLUS} and APOLLO™.

Dr. Skitzki's laboratory plans to focus on IVM studies which provide an in vivo window to visualize and record movements of immune subsets in the periphery or, critically, in established tumors. This collaboration will investigate essential elements of lymphocyte trafficking driven by OncoSec's enhanced therapeutic platform, including the new low-voltage APOLLO generator and TAVO^{PLUS} plasmids. In addition to investigating the effects of chemokine gradients on rolling/adhesion of specific immune subsets, the laboratory will conduct time-course experiments to determine the associated kinetics of this therapy. The Skitzki laboratory will also perform translational studies to address whether neo-vascularization or changes to vascularization can be used to predict response.

"This research collaboration offers a significant opportunity to leverage cutting edge experimental techniques to gain a deeper mechanistic understanding of how OncoSec's newest therapy drives lymphocyte trafficking into the tumor. We are particularly pleased to be working with Dr. Skitzki and with Roswell Park, a renowned research organization, and look forward to the critical data and related intellectual property that will emerge from this work," said Christopher G. Twitty, PhD, Chief Scientific Officer of OncoSec.

Dr. Skitzki specializes in the areas of melanoma and sarcoma, with a focus on intratumoral and regional therapies. His independent lab focuses on immunotherapies for melanoma and preclinical modeling of TAVO^{PLUS} and APOLLO™ with the goal of clinical translation. Dr. Skitzki has authored or co-authored more than 50 journal publications, book chapters and abstracts.

"Based upon a significant body of clinical data, our lead oncology product candidate, TAVO, has distinguished itself by clearly showing an ability to induce T cell activation both within local (treated) and distant (untreated) tumor microenvironments, leading to the positive response data observed across several solid tumor types. The Roswell Park collaboration will enable OncoSec to further characterize the TAVO^{PLUS} immune response and its impact on local and distant tumors, thereby imparting a fuller understanding of its clinical utility in the treatment of cancer," said Daniel J. O'Connor, President and Chief Executive Officer of OncoSec.

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 new Visceral Lesion Applicator (VLA), to target deep visceral lesions, such as liver, lung or pancreatic lesions. For more information, please visit www.oncosec.com.

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