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# OncoSec Announces New Technology to Treat Deep Visceral Lesions with IL-12

## Company Published White Paper titled, "Parachuting Behind Enemy Lines: OncoSec's Attack on Visceral Tumors via Its New Visceral Lesion Applicator (VLA)"

## White Paper Unveils Ability to Directly Deliver Plasmid-Based IL-12 to Pancreatic, Liver and Other Difficult to Treat Visceral Lesions

SAN DIEGO and PENNINGTON, N.J., April 10, 2019 /PRNewswire/ -- OncoSec Medical Incorporated (OncoSec) (NASDAQ:ONCS), a company developing intratumoral cancer immunotherapies, today announced the development of a new, propriety technology to potentially treat pancreatic, liver and other difficult to treat visceral lesions through the direct delivery of plasmid-based interleukin-12 (IL-12) with a new Visceral Lesions Applicator (VLA). The company's new technology was published in a white paper titled *"Parachuting Behind Enemy Lines: OncoSec's Attack on Visceral Tumors via Its New Visceral Lesion Applicator (VLA),"* which can be accessed here.

"This new development demonstrates a significant advancement that could be meaningful for patients. By combining the tumor-agnostic power of TAVO™ and efficiency of electroporation, the new VLA can be used to treat deep internal tumors that are typically accessed with an endoscope, bronchoscope, catheter or trocar," said Dr. James Nitzkorski, Vassar Brothers Medical Center. "Initial preclinical models will focus on hepatocellular carcinoma (HCC), a primary malignancy of the liver that occurs predominantly in patients with underlying chronic liver disease and cirrhosis. There is a large unmet need in this indication and we look forward to exploring the potential of this novel technology as a treatment for HCC."

OncoSec's VLA has been designed to work with its recently announced generator, APOLLO™, to leverage plasmid-optimized electroporation (EP), enhancing the depth and frequency of transfection of immunologically relevant genes into cells located in deep visceral lesions. Visceral lesions are typically difficult to treat, and include gastrointestinal tumors, pancreatic tumors, and hepatocellular carcinomas. Preclinical models of the VLA have demonstrated therapeutic benefit. OncoSec has previously demonstrated the potential benefit of EP through its applicability for rapid transfection of all cell types. It is a noninvasive, nonchemical, nontoxic physical method of cell transfection, and it can be applied to a broad selection of cell types capable of transfecting a wide array of molecules. This next step in EP has been further augmented with OncoSec's next-generation plasmid therapeutic, which drives superior IL-12 expression along with complementary immunomodulatory genes easily coded into this customizable vector backbone.

"The ability to treat previously inaccessible tumors with OncoSec's novel proprietary

technology could bring meaningful treatment options to patients, particularly those whose disease is not responding to standard of care treatment," said Daniel J. O'Connor, OncoSec's President and Chief Executive Officer. "Our technology has the potential to turn visceral lesions into cellular factories for immune-stimulating cytokines and other important molecules, all of which can work in concert with other immunotherapies, such as checkpoint inhibitors. As illustrated in patients with anti-PD-1–refractory melanoma being treated with TAVO™ and pembrolizumab in KEYNOTE-695, tumor responses can occur not only in the treated lesion, but also in distant sites."

The Company plans to introduce the new VLA, deploying its recently announced new product candidate, SPARK, and improved generator, APOLLO™, in early 2020.

**About OncoSec Medical Incorporated and TAVO™**
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.

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**CONTACT**
Investor Relations:
Will O'Connor
Stern Investor Relations
(212) 362-1200
will@sternir.com

Media Relations:
Katie Dodge
JPA Health Communications
(617) 657-1304
kdodge@jpa.com


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