# OncoSec Announces Publication in *Clinical Cancer Research* of Data Supporting the Therapeutic Potential of Lead Product Candidate, TAVO™, in Triple Negative Breast Cancer

*-- TAVO intratumoral therapy was safe and effective at increasing tumor antigen specific presentation and recruitment of CD8⁺ T cells, indicating ability to generate robust anti-cancer immune response --*

*-- TAVO treatment-related CXCR3 gene signature associated with improved outcomes and conversion of non-responsive tumors; Future studies of TAVO with chemokines to assess anti-tumor immunity –*

PENNINGTON, N.J. and SAN DIEGO, March 1, 2021 /PRNewswire/ -- OncoSec Medical Incorporated (NASDAQ:ONCS) (the "Company" or "OncoSec"), a late-stage biotechnology company focused on cytokine-based intratumoral immunotherapies, today announced the publication of research demonstrating the ability of its lead candidate TAVO™ (tavokinogene telseplasmid), a DNA-based interleukin-12 (IL-12), to activate tumor antigen specific antitumor immunity in patients with triple negative breast cancer (TNBC) in the peer-reviewed medical journal *Clinical Cancer Research*, a journal of the American Association for Cancer Research. The manuscript by Melinda L. Telli, M.D. et al. is titled, "Intratumoral plasmid IL-12 expands CD8+ T cells and induces a CXCR3 gene signature in triple-negative breast tumors that sensitizes patients to anti-PD-1 therapy," and is available online.

Key findings from the article include:

- TAVO treatment induced expression of a CXCR3 gene signature (CXCR3-GS), which was associated with enhanced antigen presentation, T cell infiltration and expansion, and PD-1/PD-L1 expression in mouse models.
- Assessment of pre- and post-treatment tissue from patients confirmed enrichment of CXCR3-GS in tumors that exhibited an enhancement of CD8+ T cell infiltration following treatment with TAVO.
- One patient who was previously unresponsive to anti-PD-L1 therapy exhibited an increased CXCR3-GS after TAVO treatment, and subsequently demonstrated a significant clinical response after receiving additional anti-PD-1 therapy.

"TNBC is an aggressive disease with limited therapeutic options, as only a subset of patients benefits from antibodies targeting PD-1/PD-L1," said Dr. Telli, Associate Professor of Medicine in the Division of Medical Oncology at Stanford University School of Medicine. "The published results demonstrate TAVO's potential to positively impact immunogenicity, providing mechanistic insights as well as a strong rationale to combine with chemokines and checkpoint inhibitors."

Herbert Kim Lyerly, M.D., George Barth Geller Distinguished Professor of Immunology at Duke University and Director on OncoSec's Board of Directors, added, "The published results

add to the growing body of evidence indicating TAVO's potential to activate the immune system in patients with cancer who are refractory to available treatments."

**About TAVO™**
OncoSec's gene therapy technology combines TAVO (tavokinogene telseplasmid), a DNA plasmid-based interleukin-12 (IL-12), with an intra-tumoral electroporation gene delivery platform to achieve endogenous IL-12 production in the tumor microenvironment that enables the immune system to target and attack tumors throughout the body. TAVO has demonstrated a local and systemic anti-tumor response in several clinical trials, including the pivotal Phase 2b trial KEYNOTE-695 for metastatic melanoma and the KEYNOTE-890 Phase 2 trial in triple negative breast cancer (TNBC). TAVO™ has received both Orphan Drug and Fast-Track Designation by the U.S. Food & Drug Administration for the treatment of metastatic melanoma.

**About OncoSec Medical Incorporated**
OncoSec Medical Incorporated (the "Company," "OncoSec," "we" or "our") is a late-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 along with an acceptable safety profile, warranting further development. 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.

TAVO™ is a trademark of OncoSec Medical Incorporated.

**Risk Factors and Forward-Looking Statements**
This release, as well as other information provided from time to time by the Company or its employees, may contain forward-looking statements that involve a number of risks and uncertainties that could cause actual results to differ materially from those anticipated in the forward-looking statements. Forward-looking statements provide the Company's current beliefs, expectations and intentions regarding future events and involve risks, uncertainties (some of which are beyond the Company's control) and assumptions. For those statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. You can identify forward-looking statements by the fact that they do not relate strictly to historical or current facts. These statements may include words such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "potential," "should," "will" and "would" and similar expressions (including the negative of these terms). Although we believe that expectations reflected in the forward- looking statements are reasonable, we cannot guarantee future results, levels of activity,

performance or achievements. The Company intends these forward-looking statements to speak only at the time they are published on or as otherwise specified, and does not undertake to update or revise these statements as more information becomes available, except as required under federal securities laws and the rules and regulations of the Securities Exchange Commission ("SEC"). In particular, you should be aware that the success and timing of our clinical trials, including safety and efficacy of our product candidates, patient accrual, unexpected or expected safety events, the impact of COVID-19 on the supply of our candidates or the initiation or completion of clinical trials and the usability of data generated from our trials may differ and may not meet our estimated timelines. Please refer to the risk factors and other cautionary statements provided in the Company's Annual Report on Form 10-K for the fiscal year ended July 31, 2019 and subsequent periodic and current reports filed with the SEC (each of which can be found at the SEC's website www.sec.gov), as well as other factors described from time to time in the Company's filings with the SEC.

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