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OncoSec Announces First Subjects Dosed in Phase 1 Trial of CORVax12, OncoSec's COVID-19 Vaccine Candidate Combining Interleukin-12 (IL-12) with an Enhanced SARS-CoV-2 Spike Protein

First-in-Class Combination Vaccine Using OncoSec's IL-12 DNA Plasmid-Based Cancer Immunotherapy with the National Institutes of Health's DNA Plasmid-Based Spike Protein

PENNINGTON, N.J. and SAN DIEGO, Jan. 27, 2021 /PRNewswire/ -- OncoSec Medical Incorporated (NASDAQ: ONCS) today announced that it has dosed several subjects in its Phase 1 clinical trial of CORVax12, the only vaccine candidate to include an immunostimulatory cytokine to address COVID-19. This trial, entitled, CORVax12: SARS-CoV-2 Spike (S) Protein Plasmid DNA Vaccine Trial for COVID-19 (SARS-CoV-2)(NCT04627675), will address safety and anti-viral immunological responses with the combination of a DNA-encodable stabilized SARS-CoV-2 spike glycoprotein and OncoSec's cancer immunotherapy candidate, TAVO™ (tavokinogene telseplasmid), a potent and well-characterized plasmid-based IL-12 cytokine.

Similar to other current vaccines, CORVax12 expresses a stabilized SARS-CoV-2 spike protein which trains the immune system to recognize the virus that causes COVID-19. However, the addition of IL-12 may augment the depth and type of immune response, which may enhance long-term anti-viral immunity. This coordinated cellular and humoral immunity is a hallmark of IL-12 and may not only provide for a better vaccine, but could significantly benefit patients with cancer who may not mount an effective immune response via a traditional vaccine approach.

Recent preclinical data on CORVax12 presented at the Society for Immunotherapy of Cancer (SITC)'s 35th Anniversary Annual Meeting demonstrated that CORVax12 induced a strong immune response in mouse models by leading to the production of anti-spike IgG antibodies capable of disrupting the receptor-binding domain of the spike protein.

Additionally, preliminary preclinical data has demonstrated that CORVax12 administered into tumor tissue not only yields a productive anti-viral response, but also a strong anti-tumor response. If these preclinical observations are supported with positive clinical data, this vaccine strategy may be developed to directly treat patients with tumors. Thus, CORVax12 has the potential to effectively combine OncoSec's powerful oncology platform with a strong vaccination.

"Patients' cancer, whether due to their immune status or anti-tumor therapy, may be unable
to mount an effective immune response against COVID-19 via traditional vaccine approaches. As such, there remains a need to develop vaccine candidates (or combinations), such as CORVax12, so that patients do not lose precious time off therapy for an opportunity to be protected from COVID-19," said Christopher Twitty, Ph.D., Chief Scientific Officer of OncoSec. "We are encouraged by the potential of CORVax12 as a next-generation vaccine to facilitate a long-lasting immune response. Immune compromised patients, such as those with cancer, may benefit from a vaccine option that not only drives an anti-tumor response, but also creates lasting immunity to SARS-CoV2 by boosting their immune systems to mount a defense against COVID-19. We joined the COVID-19 arena because we believe our IL-12 cancer immunotherapy and the spike protein vaccine approach may make a real impact for these patients."

The Phase 1, open-label study aims to evaluate the safety and immunogenicity of a DNA plasmid encoding the SARS-CoV-2 spike protein alone or in combination with TAVO (CORVax12) in up to 36 healthy volunteers. CORVax12 will be given as a prime dose and a booster dose four weeks apart. Subjects will be sub-divided into two parallel age cohorts of 18-55 years old and >55 years old. CORVax12 will be administered using the Cliniporator® low-voltage gene electro-transfer platform, which OncoSec recently licensed exclusively in the U.S.

**About CORVax12**
CORVax12 is the only DNA vaccine that uses an immune stimulant to promote an immune response against the SARS-CoV-2 virus. The CORVax12 vaccine approach combines the co-administration of TAVO™ (plasmid IL-12) with a DNA-encodable version of the SARS-CoV-2 spike or "S" glycoprotein to enhance immunogenicity of the component developed by scientists at the National Institute of Allergy and Infectious Diseases (NIAID) Vaccine Research Center. CORVax12 is designed to drive a coordinated vaccine response, capable of drawing upon the innate and adaptive humoral and cellular arms. This multi-pronged innate, adaptive and cellular immune response has the potential to generate a robust and long-lasting anti-viral response.

**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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