December 14, 2017

OncoSec Announces Dosing of First Patient in Registration-Directed Phase 2b Clinical Trial, PISCES/KEYNOTE-695, of ImmunoPulse® IL-12 in Combination with Pembrolizumab

SAN DIEGO, Dec. 14, 2017 /PRNewswire/ -- OncoSec Medical Incorporated ("OncoSec" or the "Company") (NASDAQ:ONCS), a company developing intratumoral cancer immunotherapies, today announced the initiation of patient dosing in PISCES/KEYNOTE-695, the company's global, multi-center, registration-directed open-label Phase 2b clinical trial. The trial will evaluate the combination of ImmunoPulse® IL-12 (intratumoral pIL-12 [tavokinogene telseplasmid or "tavo"] with electroporation), and pembrolizumab in patients with unresectable metastatic melanoma who have progressed or are progressing on an anti-PD-1 therapy.

"There remains a significant unmet medical need in oncology for patients in whom the existing PD-1 therapies do not work. Based on the encouraging data we presented at SITC, we believe the combination of ImmunoPulse IL-12 and pembrolizumab may offer a differentiated approach to reshaping the tumor microenvironment by converting immunologically cold tumors to hot," said Sharron Gargosky, Chief Clinical and Regulatory Officer of OncoSec. "We look forward to the continued advancement of this trial and to sharing data in 2018."

The Phase 2b, multicenter study of intratumoral tavo with electroporation in combination with intravenous pembrolizumab will enroll approximately 48 patients with a histological diagnosis of melanoma with progressive locally advanced or metastatic disease defined as Stage III or Stage IV. The primary endpoint will be the Best Overall Response Rate (BORR).

The Company's prior Phase 2 OMS I-102 combination study of ImmunoPulse® IL-12 and pembrolizumab in 22 patients unlikely to respond to anti-PD-1 therapy demonstrated a 50% best overall response rate and a 41% complete response rate. In addition, the trial showed a 57% progression free survival (PFS) rate at 15 months (median PFS not yet reached) and 100% (11/11) duration of response. In clinical studies to date, intratumoral tavo has demonstrated a favorable safety profile and has been well tolerated.

PISCES/KEYNOTE-695 is the second combination study conducted with pembrolizumab and, if successful, could form the basis for a BLA under the accelerated approval pathway.

To learn more about the trial, visit www.oncosec.com. Additional details can also be found at www.clinicaltrials.gov via NCT03132675.

About Metastatic Melanoma

Melanoma is a type of skin cancer that begins in skin cells called melanocytes. As the cancer progresses, melanoma becomes more difficult to treat once it spreads beyond the skin, such as the lymphatic system (metastatic disease). Given its occurrence in young individuals, the potential years of life lost to melanoma can be higher when compared with other cancers. Although melanoma is a rare form of skin cancer, it accounts for over 75% of skin cancer deaths. The American Cancer Society estimates that approximately 87,000 new melanoma cases and 10,000 deaths from the disease will occur in the United States in 2017. Additionally, the World Health Organization estimates that approximately 132,000 new cases of melanoma are diagnosed around the world every year.

About PISCES (Anti-PD-1 IL-12 Stage III/IV Combination Electroporation Study)/KEYNOTE-695

PISCES/KEYNOTE-695 is a global, multicenter phase 2b, open-label trial of intratumoral plasma encoded IL-12 (tavokinogene telseplasmid or "tavo") delivered by electroporation in combination with intravenous pembrolizumab in patients with stage III/IV melanoma who have progressed or are progressing on either pembrolizumab or nivolumab treatment. The Simon 2-stage study of intratumoral tavo plus electroporation in combination with pembrolizumab will enroll approximately 48 patients with histological diagnosis of melanoma with progressive locally advanced or metastatic disease defined as Stage III or Stage IV. The primary endpoint will be the Best Overall Response Rate (BORR).

To learn more about the trial, visit www.oncosec.com. Additional details can also be found at www.clinicaltrials.gov via NCT03132675.

About OncoSec Medical Incorporated

OncoSec is a biotechnology company developing DNA-based intratumoral immunotherapies with an investigational technology, ImmunoPulse®, for the treatment of cancer. ImmunoPulse is designed to enhance the local delivery and uptake of DNA-based immune-targeting agents, such as plasmid encoded IL-12 (tavokinogene telseplasmid or "tavo"). In Phase 1 and 2 clinical trials, ImmunoPulse® IL-12 has demonstrated a favorable safety profile, evidence of anti-tumor activity in the treatment of various solid tumors, and the potential to reach beyond the site of local treatment to initiate a systemic immune response. OncoSec's lead program, ImmunoPulse IL-12, is currently in clinical development for metastatic melanoma and triple-negative breast cancer. The program's current focus is on the significant unmet medical need in patients with melanoma who are refractory or have relapsed on anti-PD-1 therapies. In addition to tavo, the Company is also identifying and developing new immune-targeting agents for use with the ImmunoPulse platform. For more information, please visit www.oncosec.com.

Cautionary Note Regarding Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of the U.S. Private Securities Litigation Reform Act of 1995, including statements about OncoSec's business strategies, including advancement of its lead melanoma program and its broader clinical portfolio and plans to pursue collaborations with industry partners, as well as the potential contributions and impact of new directors on these strategies. In some cases, you

can identify forward-looking statements by terminology such as "may", "should", "expects", "plans", "anticipates", "believes", "estimates", "predicts", "potential" or "continue" or the negative of these terms or other comparable terminology.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on management's current preliminary expectations and are subject to risks and uncertainties, which may cause OncoSec's results to differ materially and adversely from the statements contained herein. Potential risks and uncertainties that could cause actual results to differ from those predicted include, among others, the following: the status, progress and results of clinical programs; ability to obtain regulatory approvals for, and the level of market opportunity for, OncoSec's product candidates; OncoSec's business plans, strategies and objectives, including plans to pursue collaboration, licensing or other similar arrangements or transactions; expectations regarding OncoSec's liquidity and performance, including expense levels, sources of capital and ability to maintain operations as a going concern; the competitive landscape of OncoSec's industry; and general market, economic and political conditions; and the other factors discussed in OncoSec's filings with the Securities and Exchange Commission, including its annual report on Form 10-K for the year ended July 31, 2017.

Undue reliance should not be placed on forward-looking statements, which speak only as of the date they are made. OncoSec disclaims any obligation to update any forward-looking statements to reflect new information, events or circumstances after the date they are made, or to reflect the occurrence of unanticipated events.

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