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OncoSec Medical Plans to Initiate Pilot Study in Triple Negative Breast Cancer

Study to Be Conducted at Stanford University

SAN DIEGO – January 12, 2015 -- – OncoSec Medical Inc. (OTCQB: ONCS), a company developing DNA-based intratumoral cancer immunotherapies plans to initiate a pilot study to assess IL-12 ImmunoPulse in patients with Triple Negative Breast Cancer (TNBC). The study will be conducted at Stanford University with Melinda L. Telli, MD serving as lead investigator.

This pilot study is designed to assess whether IL-12 ImmunoPulse increases TNBC tumor immunogenicity by driving a pro-inflammatory cascade of events that leads to increases in cytotoxic tumor-infiltrating lymphocytes (TILs). The presence and number of TILs is thought to be a key requirement for promoting the anti-tumor activity of antibodies like anti-PD-1/PD-L1. By driving cytotoxic immune cells into the tumor, IL-12 ImmunoPulse may be an ideal candidate to combine with checkpoint blockade therapies which reported some activity in TNBC.

Worldwide, TNBC amounts to approximately 200,000 cases each year and accounts for approximately 20 percent of all breast cancer. It is most commonly diagnosed in younger women (less than 40 years) and is characterized by higher relapse rates when compared with estrogen receptor (ER)-positive breast cancers. TNBC is also associated with an increased risk of recurrence, both locally and in distant sites including the lung, and brain. Advanced TNBC remains a significant area of unmet medical need and there is no established standard-of-care. Treatment generally includes chemotherapy, with or without radiation and/or surgery. However, no treatment regimen has clearly demonstrated superiority.

Previous studies have reported that patients with TNBC tumors associated with markers of inflammation, such as the presence of tumor-infiltrating lymphocytes (TILs) have improved survival and recent data presented have shown that TNBC is responsive to immunotherapies like anti-PD-1 or anti-PD-L1 checkpoint blockade drugs. Response rates in TNBC patients receiving either anti-PD-1 or anti-PD-L1 in early Phase 1 studies were reported to be 18 to 33 percent.

“The data presented at the 2014 San Antonio Breast Cancer Symposium (SABCS), combined with historical data correlating increased immunogenicity with improved survival in TNBC, strongly suggest that treatments aimed at augmenting pro-inflammatory signals within the tumor have a central role in improving the clinical outcomes for TNBC patients.” Mai H. Le, Chief Medical Officer at OncoSec, added “We are very excited to be working closely with our colleagues at Stanford on this pilot clinical program, which is specifically designed to evaluate the role of IL-12 ImmunoPulse in promoting tumor immunogenicity in TNBC and, ultimately, improving patient outcomes.”

Dr. Robert H. Pierce, OncoSec's Chief Scientific Officer commented: "Both the Merck and Roche/Genentech studies presented at SABCS indicate that a distinct sub-population of TNBC patients respond to inhibition of the immunosuppressive PD-1/PD-L1 axis. Both independent studies support the emerging paradigm that the presence of 'stalled' CD8 T cells (so called 'adaptive resistance') drives the response to PD-1/PD-L1 therapeutics. We are excited that Dr. Holbrook Kohrt at Stanford, an expert in the field and member of our scientific advisory board, will be involved in analyzing samples for this study. As well, Dr. Paul Tumeh will be involved as a collaborator."

About OncoSec Medical

OncoSec Medical Inc. is a biopharmaceutical company developing its investigational ImmunoPulse intratumoral cancer immunotherapy. OncoSec Medical's core technology is designed to enhance the local delivery and uptake of DNA IL-12 and other DNA-based immune-targeting agents. Clinical studies of ImmunoPulse have demonstrated an acceptable safety profile and preliminary evidence of anti-tumor activity in the treatment of various skin cancers, as well as the potential to initiate a systemic immune response without the systemic toxicities associated with other treatments. OncoSec's lead program evaluating ImmunoPulse for the treatment of metastatic melanoma is currently in Phase 2 development, and is being conducted in collaboration with several prominent academic medical centers. As the company continues to evaluate ImmunoPulse in its current indications, it is also focused on identifying and developing new immune-targeting agents, investigating additional tumor indications, and evaluating combination-based immunotherapy approaches. For more information, please visit www.oncosec.com.

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