March 12, 2018

OncoSec Announces Publication In Nature Gene Therapy Demonstrating Efficacy Of IL-12 Intratumoral Gene Electrotransfer

Research Spotlights OncoSec's Next Generation Electroporation (EP) Platform

SAN DIEGO, March 12, 2018 /PRNewswire/ -- OncoSec Medical Incorporated (OncoSec) (NASDAQ:ONCS), a company developing intratumoral cancer immunotherapies, today announced that its manuscript, "Improving therapeutic efficacy of IL-12 intratumoral gene electrotransfer," has been published in *Nature Gene Therapy.* The research, led by a team of OncoSec scientists, evolves the company's current clinical EP platform to improve the therapeutic efficacy of IL-12 intratumoral gene electrotransfer through novel plasmid design and modified parameters.

"In cancer therapy, transforming an immunologically 'cold' tumor to 'hot' offers the potential to treat a number of tumors and cancer indications that are otherwise unfavorable to current standards of care," said Dr. Christopher Twitty, Chief Scientific Officer of OncoSec. "Our ImmunoPulse® technology employs EP to enable the delivery of DNA-based IL-12 directly into tumor cells, which reshapes the tumor microenvironment leading to the generation of systemic, tumor antigen-specific T cells. The research published in *Nature Gene Therapy* highlights this capability and the potential for improving the efficacy and anti-tumor response by optimizing key components of the technology platform."

Researchers sought to improve the efficacy and systemic anti-tumor response of OncoSec's clinical IT-pIL12-EP platform by modifying *in vivo* electroporation conditions and enhancing plasmid-derived IL-12p70 expression. The improved IL-12 therapeutic platform was evaluated *in vitro* and *in vivo* using murine syngeneic tumor models. Findings show that modifications to the electroporation parameters, including lowering the electric field strength (low voltage) combined with a longer pulse length, significantly increase the transfection efficiency of intratumoral electroporation.

"With both preclinical models and clinical trials, EP has been used to successfully deliver therapeutic genes via non-viral vectors (gene electrotransfer) or to increase uptake of

chemotherapeutic drugs into tumor cells (electrochemotherapy)," said Dr. David Canton, senior author and Head of Research & Development at OncoSec. "The newly developed IT-pIL12-P2A-EP platform marks a significant improvement of our electroporation-based cancer immunotherapy."

To read the full article, please visithttps://www.nature.com/articles/s41434-018-0006-y.

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. Forward-looking statements can be identified by words such as "can," "may," "will," "suggest," "look forward to," "potential," "understand," and similar references to future periods.

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 our 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: uncertainties inherent in pre-clinical studies and clinical trials, such as the ability to enroll patients in clinical trials and the risk of adverse events; unexpected new data, safety and technical issues; our ability to raise additional funding necessary to fund continued operations; and the other factors discussed in OncoSec's filings with the Securities and Exchange Commission.

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.

CONTACT

Investor Relations:
Stern Investor Relations

Will O'Connor
Phone: (212) 362-1200
will@sternir.com

Media Relations:
Janine McCargo / David Schemelia
Tiberend Strategic Advisors, Inc.
Phone: 212-827-0020
jmccargo@tiberend.com
dschemelia@tiberend.com

View original content with multimedia:http://www.prnewswire.com/news-releases/oncosec-announces-publication-in-nature-gene-therapy-demonstrating-efficacy-of-il-12-intratumoral-gene-electrotransfer-300612111.html

SOURCE OncoSec Medical Incorporated