May 16, 2019

Oncolytics Biotech (R) Publishes Abstract Highlighting Additional Biomarker Analyses at the 2019 American Society of Clinical Oncology Annual Meeting

- Early and durable T cell clone expansion correlates with survival -
- Pelareorep-induced upregulation of pro inflammatory genes was observed in patients who derived clinical benefit -
- Pelareorep primes the immune system, supporting combination treatment with checkpoint inhibitors -

CALGARY, AB and SAN DIEGO, CA / ACCESSWIRE / May 16, 2019 /Oncolytics Biotech® Inc. (NASDAQ: ONCY) (TSX: ONC), currently developing pelareorep, an intravenously delivered immuno-oncolytic virus, today announced the publication of an abstract highlighting additional immune-based biomarker data used to help predict patient response to pelareorep in combination with checkpoint inhibitor therapy. The abstract was published online as part of the 2019 American Society of Clinical Oncology (ASCO) Annual Meeting in the Meeting Proceedings, an online supplement of ASCO's Journal of Clinical Oncology.

The abstract, titled, "Prediction of response to pelareorep plus pembrolizumab in pancreatic ductal adenocarcinoma (PDAC)," describes further immune analysis of the peripheral blood of patients from REO 024, a completed phase 1b study of pelareorep and Keytruda® (pembrolizumab) in combination with chemotherapy in patients with advanced (second-line) pancreatic cancer. A phase 2 trial of pelareorep plus pembrolizumab in advanced PDAC is currently ongoing.

"The gene expression and cytokine data analysis, as well as TCR-sequencing, provides further insight into the immune environment prior to and during treatment with pelareorep and pembrolizumab," said Dr. Rita Laeufle, Chief Medical Officer of Oncolytics Biotech. "These additional findings further highlight pelareorep's ability to create an inflamed phenotype, resulting in a primed immune system that we believe supports combination treatment with immune checkpoint inhibitors. It also builds on our discovery that T cell clonality can serve as a predictive and prognostic biomarker for clinical benefit when used to identify patients who may respond well to this therapeutic combination. This new biomarker data supports the potential selection of patients in future clinical studies, giving these studies a higher likelihood of success."

Key data and conclusions:

•Clonal T cell diversity was expanded during therapy, broadening the potential repertoire of T cells that can target tumor cells.
•~30% of expanded clones at day eight of pelareorep therapy were durable after one cycle of treatment suggesting a refinement of T cell clones that target the best tumor cell antigens.
•Gene expression analysis in peripheral blood mononuclear cells (PBMCs) helps to validate the changes in T cell diversity, where responding patients had higher levels of pro-inflammatory cytokines expressed by activated T cells, compared to non-responders. Importantly, there was a statistically significant upregulation of genes that aid in the recruitment and activation of T cells including IL17F, CCL7, and ICOS (raw $p < 0.05$).
•Gene expression analysis in PBMCs may serve as a separate and independent biomarker, and helps to corroborate our previously published blood-based T cell clonality biomarker for pelareorep therapy.

The abstract was authored by Dr. Christos Fountzilas, Assistant Professor, Dept. of Medicine - GI Medical Oncology, Roswell Park Comprehensive Cancer Center and his colleagues, in collaboration with Oncolytics Biotech, Northwestern University, UT Health San Antonio, and Adaptive Biotechnologies. The publication of the abstract can be found on the Posters & Publications page of Oncolytics' website, https://www.oncolyticsbiotech.com/technology/posters-publications.

About Pelareorep

Pelareorep is a non-pathogenic, proprietary isolate of the unmodified reovirus: a first-in-class intravenously delivered

immuno-oncolytic virus for the treatment of solid tumors and hematological malignancies. The compound induces selective tumor lysis and promotes an inflamed tumor phenotype through innate and adaptive immune responses to treat a variety of cancers and has been demonstrated to be able to escape neutralizing antibodies found in patients.

About Oncolytics Biotech Inc.

Oncolytics is a biotechnology company developing pelareorep, an intravenously delivered immuno-oncolytic virus. The compound induces selective tumor lysis and promotes an inflamed tumor phenotype - turning "cold" tumors "hot" - through innate and adaptive immune responses to treat a variety of cancers. Pelareorep has demonstrated synergies with immune checkpoint inhibitors and may also be synergistic with other approved immuno-oncology agents. Oncolytics is currently conducting and planning additional studies in combination with checkpoint inhibitors and targeted therapies in solid and hematological malignancies, as it prepares for a phase 3 registration study in metastatic breast cancer. For further information, please visit: www.oncolyticsbiotech.com.

This press release contains forward-looking statements, within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended and forward-looking information under applicable Canadian securities laws (such forward-looking statements and forward-looking information are collectively referred to herein as "forward-looking statements"). Forward-looking statements, including the Company's belief as to the potential and mode of action of REOLYSIN, also known as pelareorep, as a cancer therapeutic; and other statements related to anticipated developments in the Company's business and technologies involve known and unknown risks and uncertainties, which could cause the Company's actual results to differ materially from those in the forward-looking statements. Such risks and uncertainties include, among others, the availability of funds and resources to pursue research and development projects, the efficacy of pelareorep as a cancer treatment, the success and timely completion of clinical studies and trials, the Company's ability to successfully commercialize pelareorep, uncertainties related to the research and development of pharmaceuticals, uncertainties related to the regulatory process and general changes to the economic environment. Investors should consult the Company's quarterly and annual filings with the Canadian and U.S. securities commissions for additional information on risks and uncertainties relating to the forward-looking statements. Investors are cautioned against placing undue reliance on forward-looking statements. The Company does not undertake to update these forward-looking statements, except as required by applicable laws.

Company Contact

Michael Moore
Vice President, Investor Relations & Corporate Communications
858-886-7813
mmoore@oncolytics.ca

Investor Relations

Timothy McCarthy
LifeSci Advisors
212.915.2564
tim@lifesciadvisors.com

Media Contact

Jason Spark
Canale Communications
619-849-6005
jason@canalecomm.com

SOURCE: Oncolytics Biotech Inc.

View source version on accesswire.com:
https://www.accesswire.com/545583/Oncolytics-Biotech-R-Publishes-Abstract-Highlighting-Additional-Biomarker-Analyses-at-the-2019-American-Society-of-Clinical-Oncology-Annual-Meeting