

April 18, 2018



Oncolytics Biotech(R) Demonstrates Positive Data in Two Posters at AACR Annual Meeting 2018

CALGARY, AB and SAN DIEGO, CA -- (Marketwired) -- 04/18/18 --

- Preclinical models proved pelareorep increased PD-L1 expression in microsatellite stable (MSS) colorectal cancer cells (CRC) -

- Demonstrated efficacy of pelareorep and anti-PD1 agent combination -

Oncolytics Biotech® Inc. (TSX: ONC)(OTCQX: ONCYF), currently developing REOLYSIN® (pelareorep), an intravenously delivered immuno-oncolytic virus turning cold tumors hot, today announced two posters highlighting data from pelareorep studies presented at the American Association for Cancer Research (AACR) Annual Meeting 2018. The conference takes place April 14-18, 2018, in Chicago.

"These posters add additional confirmation of pelareorep's promotion of an inflammatory signature in different cell lines," said Dr. Matt Coffey, President and CEO of Oncolytics Biotech. "The study by doctor Wilkinson demonstrates that pelareorep can establish an inflamed tumor phenotype and the presentation by doctor Goel highlights the synergistic combination of pelareorep and an anti-PD1 agent. Taken together, these findings highlight that pelareorep is priming the immune system and enhancing the activity of checkpoint blockade. As MSS CRC typically does not respond to checkpoint blockade, viral priming could expand the use of this drug class by making non-susceptible tissue susceptible by turning cold tumors hot. This work will of course lead to additional studies in combination with other immunotherapies."

Presenter:	Sanjay Goel, MD, Associate Professor of Medicine, Montefiore Medical Center
Presentation Title:	Potentiating effect of reovirus in anti-PD1 therapy in colorectal cancer
Session Title:	Receptor Targeting and the Tumor Microenvironment
Location:	Poster Section 38
Poster Board #:	17
Poster Number:	3917

Data presented in the poster demonstrated:

- pelareorep administration increased PD-L1 expression on MSS CRC cells;
- possible evidence of a vaccine effect: immunologically competent mice were re-challenged with the original tumor and the tumor was unable to propagate;
- combination therapy made statistically significant improvements in survival compared to controls in both BALB/c (median 42 vs. 16 days, $p=0.003$) and C57BL/6 (median 24 vs. 17 days, $p=0.02$) mice; and
- pelareorep treated xenografted tumor tissue showed a higher infiltration of T

lymphocytes as confirmed by CD8-positive and intensified granzyme staining.

Presenter:	Grey Wilkinson, PhD, Translational Scientist, Oncolytics Biotech
Presentation Title:	Pelareorep promotes the expression of a chemokine signature that predicts response to immunotherapy
Session Title:	Immunomodulatory Agents and Interventions 2
Location:	Poster Section 33
Poster Board #:	10
Poster Number:	4707

Data presented in the poster demonstrated:

- the expression of a chemokine signature that predicts response to immunotherapy;
- global changes in gene expression are unique and different for each cell line following pelareorep infection and changes in gene expression occur before significant cell lysis;
- pelareorep differentially promotes the expression of innate and adaptive immunity related genes in HCC, CRC, NSCLC cell lines; and
- pelareorep promotes the expression of gene signatures that predict response to immuno-therapies in HCC cells.

These posters are now available on the Posters & Publications page of the company's website: www.oncolyticsbiotech.com/technology/posters-publications.

About REOLYSIN/Pelareorep

REOLYSIN, also known as 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.

About Oncolytics Biotech Inc.

Oncolytics is a biotechnology company developing REOLYSIN[®], also known as 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. Oncolytics' clinical development program emphasizes three pillars: chemotherapy combinations to trigger selective tumor lysis and immuno-therapy and immune modulator (IMiD) combinations to produce innate and adaptive immune responses. Oncolytics is currently planning its first registration study in metastatic breast cancer, as well as studies in combination with checkpoint inhibitors and targeted and IMiD therapies in solid and hematological malignancies. 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.

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Source: Oncolytics Biotech, Inc.