

March 14, 2018



Oncolytics Biotech(R) Announces Publication of REOLYSIN(R) Abstract for the AACR 2018 Annual Meeting

Study Evaluates the Interferon Gamma Pro-Inflammatory Effect of REOLYSIN(R) in Infected Cancer Cells

CALGARY, AB and SAN DIEGO, CA -- (Marketwired) -- 03/14/18 -- Oncolytics Biotech® Inc. (TSX: ONC)(OTCQX: ONCYF), currently developing REOLYSIN® (pelareorep), an intravenously delivered immuno-oncolytic virus creating an inflamed phenotype, today announced publication of an abstract on pelareorep for the American Academy of Cancer Research (AACR) 2018 Annual Meeting. The meeting will take place from April 14 - 18, 2018 at McCormick Place, Chicago, IL.

"This most recent data shows that pelareorep, an immuno-oncolytic virus, or IOV, elicits an interferon- γ -proinflammatory gene signature in select cancer cells permissive to viral infection, which could activate and expand T-cell and natural killer cell populations at the tumor site," said Dr. Andres Gutierrez, Chief Medical Officer at Oncolytics Biotech. "Pelareorep could therefore recruit immune cells and induce an inflamed tumor phenotype in some tumor types, including hepatocellular carcinoma, as previously demonstrated in other preclinical and clinical studies with pelareorep. These data highlight pelareorep's mechanism of recruiting immune cells and provide further rationale for synergies with both immune checkpoint inhibitor and CAR-T cell approaches."

The abstract, authored by Wilkinson *et al.*, "Pelareorep promotes the expression of a chemokine signature that predicts response to immunotherapy" covers results of a study assessing whether pelareorep promotes a predictive inflamed tumor phenotype that correlates with a response to immunotherapy. The abstract will be available on the AACR website on March 14, 2018 at 4:30 pm ET. The poster presentation will take place on April 17, 2018 from 1:00 pm - 5:00 pm ET.

Full abstracts are available online at www.aacr.org.

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; immuno-therapy combinations to produce adaptive immune responses; and immune modulator (IMiD) combinations to facilitate innate 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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