April 10, 2018

Oncolytics Biotech(R) Presents Positive REOLYSIN(R) Data in Combination with Keytruda and anti-CD73 at International Oncolytic Virus Conference 2018

- Combination therapy with REOLYSIN(R), Keytruda(R) and/or anti-CD73 immunotherapy led to rejection of pre-established tumours and protection from tumour rechallenge -

CALGARY, AB and SAN DIEGO, CA -- (Marketwired) -- 04/10/18 -- Oncolytics Biotech® Inc. (TSX: ONC)(OTCQX: ONCYF), currently developing REOLYSIN® (pelareorep), an intravenously delivered immuno-oncolytic virus creating an inflamed phenotype, today announced that a poster highlighting the effectiveness of pelareorep in combination with Keytruda® and/or an anti-CD73 immunotherapy in prostate cancer cell lines was presented at the 11th International Oncolytic Virus Conference (IOVC). The conference takes place at Oxford University, April 9-12, 2018, in Oxford, UK.

"This poster adds to the critical mass of validating data that demonstrates the positive outcomes seen when using pelareorep in combination with other immuno-oncology drugs," said Dr. Matt Coffey, President and CEO of Oncolytics Biotech. "Prostate cancer is generally considered to be a 'cold' tumor, and this non-inflamed phenotype is thought to be largely responsible for the lack of sensitivity of these patients to immune checkpoint blockade. We continue to believe that the use of oncolytic viruses can overcome pre-existing mechanisms of resistance to immunotherapy in many cancers by transforming these 'cold' tumors into 'hot,' immune cell infiltrated tumors."

Data presented in the poster demonstrated that:

- treatment of subcutaneous TRAMP-C2 prostate tumors with a combination of pelareorep and anti-PD-1 (Keytruda®) or anti-CD73 antibody significantly enhanced survival of mice compared to pelareorep or antibody therapy alone;
- immune profiling of pelareorep treated and untreated tumors confirmed the ability of pelareorep to increase tumour immune cell infiltration;
- pelareorep infection of tumours is needed before a therapeutic effect of anti-immune inhibitory/suppressive antibodies is seen;
- pelareorep-initiated antitumor immunity protects against subsequent tumour challenge; and
- after the study of negative regulators, only B and T lymphocyte attenuator (BTLA) and PD-L1 were significantly upregulated in the pelareorep treated TRAMP-C2 tumors compared to untreated tumour.

The poster presentation by Dr. Guy Simpson, Department of Clinical and Experimental Medicine, University of Surrey, is now available on the Posters, Presentations & 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.

Company Contact
Michael Moore
Vice President, Investor Relations & Corporate Communications
858-886-7813

mmoore@oncolytics.ca

Investor Relations
Robert Uhl
Westwicke Partners
858-356-5932
robert.uhl@westwicke.com

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

Source: Oncolytics Biotech, Inc.