

Oncolytics Biotech (R) Announces a Publication Highlighting Synergistic Effect of Pelareorep with a Proteasome Inhibitor in Preclinical Models of Multiple Myeloma

- Combination Synergistic Even in Cells That Have Developed Resistance to Bortezomib

- Article Published in the March 12 Edition of the Journal *Blood Advances*

CALGARY, AB and SAN DIEGO, CA / ACCESSWIRE / March 28, 2019 Oncolytics Biotech® Inc. (NASDAQ: ONCY) (TSX: ONC), currently developing pelareorep, an intravenously delivered immuno-oncolytic virus, today announced the publication of an article highlighting the synergistic effect of oncolytic immunotherapy in combination with a proteasome inhibitor in the treatment of multiple myeloma. The article, entitled, "Oncolytic immunotherapy and bortezomib synergy improves survival of refractory multiple myeloma in a preclinical model," co-authored by Oncolytics' President and Chief Executive Officer, Dr. Matt Coffey was published in the March 12 edition of *Blood Advances*.

The article demonstrates that the combination of reovirus and bortezomib can overcome drug resistance, a major hurdle in the treatment of multiple myeloma. Further, the combination modifies the tumor microenvironment to overcome the immune suppressive environment caused by multiple myeloma cells in the bone marrow. This combination promotes a pro-inflammatory signal within the tumor microenvironment, upregulates the PD-L1/PD-1 axis and enhances immune cell infiltration. Collectively, this suggests the possibility of synergies and increased efficacy with the addition of checkpoint blockade to the combination.

"We'd like to thank our collaborators for this influential work which provides further evidence that the combination of pelareorep with a proteasome inhibitor can synergistically overcome drug resistance and drive enhanced tumor killing and superior overall survival in animal models," said Dr. Rita Laufle, Chief Medical Officer of Oncolytics. "Importantly, the combination engages the immune system in a manner that converts tumor indications that have not been responsive to checkpoint blockade to those that are responsive, by both reversing the immune suppressive aspects of the tumor microenvironment while increasing immune cell trafficking to the tumor and generating new anti-tumor memory T cells. These findings are consistent with our clinical observations that proteasome inhibition, in combination with reovirus, primes the tumor for checkpoint blockade and further validates our combination studies in this and other indications, including our most advanced indication, metastatic breast cancer."

Blood Advances is a semimonthly, peer-reviewed medical journal published by the American Society of Hematology (ASH). A copy of the paper can be found on our 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.

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