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# Oncolytics Biotech® Announces Publication of Preclinical and Patient Data Demonstrating Pelareorep's Stimulation of Natural Killer Cell Anti-Cancer Activity

**New insights into pelareorep's immune-related mechanism of action demonstrate it stimulates an innate immune response that in turn triggers adaptive anti-tumor immunity**

**Specificity for tumor cells compared to normal cells likely results from the impairment of viral detection/interferon responses in malignant cells**

SAN DIEGO and CALGARY, AB, March 17, 2022 /CNW/ -- Oncolytics Biotech® Inc. (NASDAQ: ONCY) (TSX: ONC) today announced the publication of preclinical and patient data on pelareorep in the peer-reviewed journal *Immunology*. The paper, entitled "Oncolytic virus treatment differentially affects the CD56<sup>dim</sup> and CD56<sup>bright</sup> NK cell subsets *in vivo* and regulates a spectrum of human NK cell activity," was published in collaboration with researchers at several prestigious institutions, including the University of Leeds School of Medicine and the Institute of Cancer Research, London. A link to the paper can be found by [clicking here](#).



Described in the paper are *in vitro* studies evaluating pelareorep's effects on Natural Killer (NK) cells as well as analyses of blood samples from patients with colorectal liver metastases taken prior to and after treatment with pelareorep. Results showed pelareorep treatment led to the activation of NK cells, which are known to directly kill cancer cells while stimulating adaptive anti-tumor immunity. The beneficial effects of pelareorep were observed both in patient samples and *in vitro* and were mediated by type 1 interferon (IFN-1) signaling, a key pathway involved in immunoregulation and tumor cell recognition.

"These important results further demonstrate both pelareorep's innate and adaptive

immunologic mechanism of action, and we are pleased to have them published in such a prestigious, peer-reviewed journal," said Dr. Matt Coffey, President and Chief Executive Officer of Oncolytics Biotech and co-author of the paper. "When viewing these findings, alongside prior clinical data demonstrating pelareorep's ability to activate T cells while promoting their infiltration into tumors, we see pelareorep delivering a robust, coordinated anti-cancer immune response driven by both the innate and adaptive immune systems. Looking forward, we will continue to leverage the immunotherapeutic effects of pelareorep as we further its development as an enabling technology for a wide cross-section of immunotherapeutic agents in breast cancer and other oncologic indications with high unmet needs."

Patient samples evaluated in the publication were from a completed window-of-opportunity clinical study evaluating pelareorep in colorectal cancer patients with liver metastases. Patients received between one and five doses of pelareorep prior to planned surgery to resect metastases. Blood samples were taken both prior to and at multiple time points after pelareorep treatment. Additional details of the trial, as well as previously reported results, are available in prior peer-reviewed publications<sup>1,2</sup>.

#### **References:**

1. Adair RA, Roulstone V, Scott KJ, et al. *Sci Transl Med*. 2012;4(138):138ra77. doi:10.1126/scitranslmed.3003578
2. El-Sherbiny YM, Holmes TD, Wetherill LF, et al. *Clin Exp Immunol*. 2015;180(1):98-107. doi:10.1111/cei.12562

#### **About Oncolytics Biotech Inc.**

Oncolytics is a biotechnology company developing pelareorep, an intravenously delivered immunotherapeutic agent. This compound induces anti-cancer immune responses 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 oncology treatments. Oncolytics is currently conducting and planning clinical trials evaluating pelareorep in combination with checkpoint inhibitors and targeted therapies in solid and hematological malignancies as it advances towards a registration study in metastatic breast cancer. For further information, please visit: [www.oncolyticsbiotech.com](http://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 contained in this press release include statements regarding Oncolytics' belief as to the potential and benefits of pelareorep as a cancer therapeutic; Oncolytics' plans to advance towards a registration study in metastatic breast cancer; and other statements related to anticipated developments in Oncolytics' business and technologies. In any forward-looking statement in which Oncolytics expresses an expectation or belief as to future results, such expectations or beliefs are expressed in good faith and are believed to*

*have a reasonable basis, but there can be no assurance that the statement or expectation or belief will be achieved. Such forward-looking statements involve known and unknown risks and uncertainties, which could cause Oncolytics' 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, Oncolytics' 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. In particular, we may be impacted by business interruptions resulting from COVID-19 coronavirus, including operating, manufacturing supply chain, clinical trial and project development delays and disruptions, labour shortages, travel and shipping disruption, and shutdowns (including as a result of government regulation and prevention measures). It is unknown whether and how Oncolytics may be affected if the COVID-19 pandemic persists for an extended period of time. We may incur expenses or delays relating to such events outside of our control, which could have a material adverse impact on our business, operating results and financial condition. Investors should consult Oncolytics' 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 any obligation to update these forward-looking statements, except as required by applicable laws.*

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