November 1, 2018

# Oncolytics Biotech® Announces Abstract for ASH Annual Meeting & Exposition Demonstrating Pelareorep Increases PD-L1 Expression When Combined with a Proteasome Inhibitor

**Pelareorep ideal candidate for combination with immune checkpoint inhibitors**

CALGARY, Alberta and SAN DIEGO, Nov. 01, 2018 (GLOBE NEWSWIRE) -- Oncolytics Biotech® Inc. (NASDAQ: ONCY) (TSX: ONC), currently developing pelareorep, an intravenously delivered immuno-oncolytic virus, today announced publication of an abstract on pelareorep to be presented at the American Society of Hematology (ASH) Annual Meeting & Exposition taking place December 1-4 in San Diego, California.

The abstract, authored by Craig C. Hofmeister, Acting Associate Professor, Department of Hematology and Medical Oncology Emory University School of Medicine, et al., is titled "Oncolytics Virus Replication Using Pelareorep (Reolysin) and Carfilzomib in Relapsed Myeloma Patients Increases PD-L1 Expression with Clinical Responses".

Because immune checkpoint inhibitors can only be effective when tumors express checkpoints such as PD-L1, an industry-wide effort is underway to identify agents that can upregulate the checkpoints on checkpoint-naked tumor cells. The abstract outlines a two-part study that demonstrated an increase in viral infection, viral replication and PD-L1 expression on the surface of myeloma cells for patients undergoing treatment with pelareorep in combination with carfilzomib (Kyprolis), a proteasome inhibitor, while carfilzomib alone has not been shown to induce PD-L1 expression. In part one of the study, six carfilzomib-sensitive patients showed reovirus infection and replication in the post-treatment bone marrow aspirates. In part two of the study, seven carfilzomib-refractory patients were enrolled, and of the three patients processed to date, reovirus infection was detected in myeloma cells of two patients and endothelial cells of one patient.

"With two very good partial responses and two partial responses, the results demonstrate an objective response at the recommended dose, as well as increased viral infection and viral replication," said Dr. Matt Coffey, President and Chief Executive Officer of Oncolytics Biotech. "Most notably, in these myeloma patients receiving a proteasome inhibitor, systemically delivered pelareorep led to increases in PD-L1 expression, making pelareorep an ideal candidate to use in combination with this drug class."

The complete abstract can be found online at http://www.hematology.org/Annual-Meeting/Abstracts. Full details from the poster presentation will be announced after it is

presented.

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| **Presentation Number:** | 2655 |
| **Title:** | Oncolytics Virus Replication Using Pelareorep (Reolysin) and Carfilzomib in Relapsed Myeloma Patients Increases PD-L1 Expression with Clinical Responses |
| **Date:** | Sunday, December 2 |
| **Lecture Time:** | 6:00 p.m. PT – 8:00 p.m. PT |
| **Location:** | San Diego Convention Center, Hall GH |
| **Speakers:** | Craig Hofmeister |
| **Session:** | 605. Molecular Pharmacology, Drug Resistance—Lymphoid and Other Diseases: Poster II |

## 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. 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 conducting and planning additional studies in combination with checkpoint inhibitors and targeted and IMiD 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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