December 3, 2018

Oncolytics Biotech® Announces Increased PD-L1 Expression When Combining Pelareorep with a Proteasome Inhibitor in Poster Presentation at the 60th American Society of Hematology Annual Meeting & Exposition

- Increased PD-L1 expression correlates with clinical response when pelareorep is combined with a proteasome inhibitor -

- Data continue to recommend pelareorep as a standardized backbone for immune checkpoint therapy -

CALGARY, Alberta and SAN DIEGO, Dec. 03, 2018 (GLOBE NEWSWIRE) -- Oncolytics Biotech® Inc. (NASDAQ: ONCY) (TSX: ONC), currently developing pelareorep, an intravenously delivered immuno-oncolytic virus, today announced a poster presentation made at the American Society of Hematology (ASH) Annual Meeting & Exposition taking place December 1-4 in San Diego, California. The poster highlights pelareorep's ability to increase PD-L1 expression on tumor cells in patients with relapsed myeloma.

The poster, 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 and Carfilzomib in Relapsed Myeloma Patients Increases PD-L1 Expression with Clinical Responses", was presented yesterday. This phase 1 study enrolled 15 patients with relapsed myeloma.

"There is a growing effort to identify agents that can upregulate PD-L1 to increase the potential number of patients that can be treated with immune checkpoint blockade," said Dr. Hofmeister. "The data in this poster clearly demonstrate an increase in viral infection and viral replication, as well as pelareorep-dependent PD-L1 increased expression on the surface of myeloma cells, among patients undergoing treatment with pelareorep in combination with carfilzomib."

Highlights from the Poster:

- Responses include:
  - Three very good partial responses (at least 90% reduction in monoclonal protein)
  - Three partial remissions (at least 50% reduction in monoclonal protein)
  - Three minimal responses (between 25% and 50% response to a drug or regimen

in a clinical trial
    - Three stable disease
- In patients receiving pelareorep with a clinical response, there was simultaneous CD8, PD-L1, and NK cell response, as well as activated caspase-3 expression
- In patients treated with pelareorep, PD-L1 expression increased significantly more in patients with clinical response

“This presentation adds to the growing body of clinical evidence that pelareorep can boost PD-L1 expression and has the potential to be a backbone for immune checkpoint inhibition,” said Dr. Matt Coffey, President and Chief Executive Officer of Oncolytics Biotech. “We appreciate the continued support of Dr. Hofmeister and look forward to collecting additional data from his subsequent study combining pelareorep with Bristol Myers Squibb’s immune checkpoint inhibitor, Opdivo, which should begin enrollment before the end of the year.”

The poster can be found at 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. Oncolytics' clinical development program emphasizes three pillars: chemotherapy combinations to trigger selective tumor lysis and immunotherapy and immune modulator (IMiD) combinations to produce innate and adaptive immune responses. Oncolytics is currently conducting and planning additional studies in conjunction 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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Source: Oncolytics Biotech, Inc.