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Oncolytics Biotech® Announces Successful End-of-Phase 2 Meeting with FDA for REOLYSIN® in Metastatic Breast Cancer

Outcome supports focus on HR+/HER2- patient group that reported an effective doubling of median overall survival from 10.8 to 21.0 months

CALGARY and SAN DIEGO, Sept. 18, 2017 /PRNewswire/ - Oncolytics Biotech® Inc. (TSX: ONC) (OTCQX: ONCYF) (Oncolytics or the Company), a biotech company developing REOLYSIN® (pelareorep) a first-in-class, intravenously delivered immuno-oncolytic virus that activates the innate and adaptive immune systems, today announced a successful End-of-Phase 2 meeting with the U.S. Food and Drug Administration (FDA) for REOLYSIN in combination with paclitaxel, for the treatment of hormone receptor positive, HER2 receptor negative (HR+/HER2-) metastatic breast cancer (mBC) patients. The purpose of the meeting was to discuss the preclinical and clinical programs, including the design of the phase 3 registration study to support a future Biologics License Application (BLA) submission in the U.S.

"The FDA's feedback and positive End-of-Phase 2 meeting outcome support our proposed target patient population of HR positive/HER2 negative metastatic breast cancer patients for our registration study," said Dr. Matt Coffey, President and CEO of Oncolytics Biotech. "With statistically significant and clinically compelling overall survival data, Fast Track designation and now clear guidance from the FDA, we are focused on finalizing the adaptive study design that will include approximately four hundred patients with a pre-determined interim analysis. Importantly, the FDA provided guidance that if the study achieves its primary endpoint, then it will be the only study required for BLA approval. The design of the study and this FDA guidance will also continue to drive our partnering process."

Oncolytics' proposed target population for its phase 3 study of pelareorep is patients with HR+/HER2- mBC, which represents approximately 73 percent of metastatic breast cancer cases that have limited treatment options that offer survival benefit. Details of the pivotal phase 3 registration study will be made available following evaluation and completion of discussions with clinical advisors, European regulators and potentially partners.

About Metastatic Breast Cancer
Metastatic breast cancer, also known as advanced or Stage 4 breast cancer, has spread to other parts of the body. Most commonly the lungs, liver, bones or brain. The disease affects over 154,000 women in the United States and according to the American Cancer Society, has a five-year survival rate of just 22 percent. Significantly lower than stage 3, with a five-year relative survival rate of 72 percent and stage 2, with a five-year survival rate over 90 percent.

About REOLYSIN
REOLYSIN® 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, an intravenously delivered immuno-oncolytic virus. The compound induces selective tumor lysis and promotes an inflamed tumor phenotype 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; immuno-therapy combinations to produce adaptive immune responses; and immune modulator (IMiD) combinations to facilitate innate immune responses. Oncolytics is currently planning its first registration study in metastatic breast cancer, as well as studies in combination with checkpoint inhibitors as well as targeted and IMiD therapies in solid and hematological malignancies. For further information about Oncolytics, 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. Forward-looking statements, including the Company's belief as to the potential

of REOLYSIN® as a cancer therapeutic; the Company's expectations as to the success of its research and development programs in 2017 and beyond, the Company's planned operations, the value of the additional patents and intellectual property; the Company's expectations related to the applications of the patented technology; the Company's expectations as to adequacy of its existing capital resources; the design, timing, success of planned clinical trial programs; 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 REOLYSIN as a cancer treatment, the success and timely completion of clinical studies and trials, the Company's ability to successfully commercialize REOLYSIN, 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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