April 17, 2020

Oncolytics Biotech® Updates Clinical Development and Operations Activities During the COVID-19 Pandemic

SAN DIEGO, California and CALGARY, Alberta, April 17, 2020 /PRNewswire/ -- Oncolytics Biotech® Inc. (NASDAQ: ONCY) (TSX: ONC), currently developing pelareorep, an intravenously delivered immuno-oncolytic virus, today provided an update on the potential impact of COVID-19 on the Company's clinical and business operations. The Company's clinical and regulatory teams remain active and are working closely with our investigators to identify the most appropriate steps forward for each study. There has been no impact on the continuity of the manufacturing of pelareorep, and Oncolytics is fully capable of supplying pelareorep to all ongoing clinical studies. Although it is too early to determine the absolute effects of the outbreak on specific trial timelines, it is anticipated that COVID-19 will impact clinical trial enrollment timelines to some degree.

"Certain sites have been readied for our BRACELET-1 breast cancer trial, and absent COVID-19 we would have enrolled our first patient by now," said Dr. Matt Coffey, Chief Executive Officer at Oncolytics. "However, COVID-19 is severely impacting global healthcare systems, and all companies are seeking adaptations to maintain aggressive clinical activities. Our focus, first and foremost, is the safety of our employees and the patients in our trials. Because cancer patients participating in clinical studies are critically ill, we and regulatory bodies will strive to minimize any delays in their treatment, and the nature of our targeted patient population may mitigate long-term impact on our clinical development program, catalysts and milestones. Indeed, we remain fully committed to advancing our clinical studies, and we will seek every legitimate and reasonable measure to deliver potentially life-saving therapies to these patients."

"The resilience and dedication of our own clinical team and our collaborators is inspiring," said Dr. Rita Laeufle, Chief Medical Officer at Oncolytics. "We now have all twenty clinical trial sites selected for BRACELET-1, and we are expanding the number of clinical trial sites for our AWARE-1 trial. At this time, we do not expect significant enrollment delays overall and plan to have data from AWARE-1 presented at the 2020 ESMO Breast Cancer Congress, and multiple myeloma and pancreatic cancer data presented at the ASCO conference, as planned."

Oncolytics has adopted the FDA guidance issued for the COVID-19 pandemic: "FDA Guidance on Conduct of Clinical Trials of Medical Products during COVID-19 Pandemic: Guidance for Industry, Investigators, and Institutional Review Boards" to ensure patient safety and the appropriate use of healthcare resources.

About Pelareorep

Pelareorep is a non-pathogenic, proprietary isolate of the unmodified reovirus: a first-in-class intravenously delivered immuno-oncolytic dsRNA virus in development 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 pelareorep as a cancer therapeutic, the anticipated mitigation of the long-term impact of the COVID-19 pandemic on our clinical development program, catalysts and milestones by the return of cancer patients to treatment and care, the anticipated impact of the COVID-19 pandemic on our clinical trial enrollment timelines and manufacturing and supply of pelareorep; uncertainty around the effects of the COVID-19 pandemic on specific trial timelines, the expected temporary nature of delays in cancer patient treatment and care; our commitment to advancing all of our studies as quickly as possible; our expectations around enrollment delays for the AWARE-1 study; our ongoing identification of trial sites for the BRACELET-1 and AWARE-1 studies; the planned presentation of AWARE-1 data at the ESMO Breast Cancer conference in May 2020 and of myeloma and pancreatic cancer data at ASCO; the potential for delay of AWARE-1 biomarker data; and other statements related to anticipated developments in the Company's business 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. 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 the Company 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 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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