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Oncolytics Biotech® Inc. Reports Updated Data from Randomized Phase 2 Study of REOLYSIN® in Pancreatic Cancer

--Intent-to-Treat Analysis Shows Statistically Significant Increase in 2-Year Survival--

CALGARY, April 14, 2016 /PRNewswire/ - Oncolytics Biotech® Inc. (TSX: ONC) (OTCQX: ONCYF) (FRA: ONY) ("Oncolytics" or the "Company") today announced updated results for a randomized Phase 2 clinical trial of its lead product, REOLYSIN®, in combination with carboplatin and paclitaxel in patients with pancreatic cancer (NCI-8601). The study is being sponsored by the U.S. National Cancer Institute ("NCI"). The update is based on data collected up to January 19, 2016 from the NCI and updates information from previous disclosures by the principal investigator.

Update Highlights

Overall survival ("OS") of control, test, crossover, and combined test and crossover arms

Arm	***Median OS (months)***	***1-year OS (%)***	***2-year OS (%)***	***3-year OS (%)***
Control (n = 20)	*6.57*	*25.0*	*0*	*0*
Test (n = 36)	*7.33*	*29.6*	*17.7*	*8.87*
Crossover (n = 16)	*10.97*	*25.0*	*12.5*	*6.25*
Combined Test and Crossover (n = 52)	*8.73*	*28.1*	*16.0*	*8.02*

Source: NCI Clinical Trial Summary: Response Information Report

The Company performed an intent-to-treat analysis of overall survival on patients with confirmed treatment regimes, as assessed by the percentage of patients surviving for two years. The analysis showed a statistically significantly higher percentage of patients surviving two years in the test arm versus the control arm ($p = 0.001$), the crossover arm versus the control arm ($p = 0.03$) and the test plus crossover arms versus the control arm ($p = 0.0004$). At the time of the data cut off (January 19, 2016), there were five survivors on study in the test arm, and one survivor on study in the crossover arm. As a result, the two- and three-year survival for the arms may continue to evolve.

"These data clearly illustrate that patients receiving REOLYSIN®, whether in the test arm or crossing over after progressing in the control arm, received a benefit in longer-term overall survival," said Dr. Brad Thompson. "The overall survival findings in this study build on what we saw in our REO 017 study, where the combination of REOLYSIN® and gemcitabine, also produced a clear longer-term overall survival benefit, despite having limited impact on progression free survival. This is characteristic of clinical studies where the immune system affects patient outcomes. Based on these combined results, we are currently enrolling pancreatic cancer patients in a study incorporating REOLYSIN® plus the checkpoint inhibitor KEYTRUDA® to determine the effect of the immune system on patient outcomes."

This was one in a series of randomized Phase 2 studies with REOLYSIN® that were designed and sponsored by third parties to test their specific hypotheses, and the Company intends to use these findings to further advance its own clinical program.

Study Design Summary
The study was an open-label, multi-institution, two-arm Phase 2 randomized study of patients with metastatic pancreatic cancer. Patients were randomized to receive either carboplatin, paclitaxel and REOLYSIN® (test arm) or carboplatin and paclitaxel alone (control arm). Patients in both arms received treatment every three weeks (21-day cycles) and standard intravenous doses of paclitaxel and carboplatin on day one only. In the test arm, patients also received intravenous REOLYSIN® at a dose of $3x10^{10}$ $TCID_{50}$ on days one through five. Tumor response was assessed by computed tomography (CT) scan and conducted every eight weeks. Patients who progressed on carboplatin and paclitaxel (control arm) had REOLYSIN® added (crossover arm). If patients experienced significant toxicity related to carboplatin and/or paclitaxel, they could continue with single agent REOLYSIN®.

The primary endpoint of the trial is to assess improvement in progression free survival with REOLYSIN®, carboplatin and paclitaxel relative to carboplatin and paclitaxel alone in patients with metastatic pancreatic cancer. Secondary endpoints include safety, overall response rate, overall survival, immune factors and to prospectively establish and validate the relationship between Ras mutations in tumor samples and response to REOLYSIN®. For this analysis, the control arm is patients receiving carboplatin and paclitaxel alone, the test arm is patients receiving carboplatin, paclitaxel, and REOLYSIN®, and the crossover arm is patients initially treated with carboplatin and paclitaxel alone, who progressed and subsequently had REOLYSIN® added to their treatment regime.

About Oncolytics Biotech Inc.
Oncolytics is a Calgary-based biotechnology company focused on the development of oncolytic viruses as potential cancer therapeutics. Oncolytics' clinical program includes a variety of later-stage, randomized human trials in various indications using REOLYSIN®, its proprietary formulation of the human reovirus. For further information about Oncolytics, please visit: www.oncolyticsbiotech.com.

This press release contains forward-looking statements, within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements, including the Company's expectations related to the randomized Phase 2 study in patients with pancreatic cancer, future trials in

this indication, and the Company's belief as to the potential of REOLYSIN® as a cancer therapeutic, 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 tolerability of REOLYSIN® outside a controlled test, the success and timely completion of clinical studies and trials, the Company's ability to successfully commercialize REOLYSIN®, uncertainties related to the research, development and manufacturing of pharmaceuticals, changes in technology, general changes to the economic environment and uncertainties related to the regulatory process. 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 should consider statements that include the words "believes", "expects", "anticipates", "intends", "estimates", "plans", "projects", "should", or other expressions that are predictions of or indicate future events or trends, to be uncertain and forward-looking. 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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