Oncolytics Biotech® Inc. Reports Preliminary Data from Randomized Phase II Study of REOLYSIN® in Colorectal Cancer

--REOLYSIN® Demonstrates Increase in Objective Response Rates in Female Patients and in Patients with Liver Metastases--

CALGARY, May 19, 2016 /PRNewswire/ - Oncolytics Biotech Inc. ("Oncolytics" or the "Company") (TSX: ONC) (OTCQX: ONCYF) (FRA: ONY) today announced preliminary data from a randomized Phase II clinical trial of its lead product, REOLYSIN®, in combination with FOLFOX-6 and bevacizumab (Avastin®) in patients with advanced or metastatic colorectal cancer (IND 210). The study is being sponsored by the National Cancer Institute of Canada ("NCIC") Clinical Trials Group ("CTG") at Queen's University in Kingston, Ontario. The preliminary analysis includes data from an NCIC study summary report, and follows the release of an abstract to be presented at the American Society of Clinical Oncology ("ASCO") Annual Meeting, which will run from June 3-7, 2016 in Chicago, IL.

**Highlights**

<table>
<thead>
<tr>
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<th>Objective Response Rate (%)</th>
<th>Progression Free Survival (months)</th>
<th>Median Overall Survival (months)¹</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Test</td>
<td>Control</td>
<td>Test</td>
</tr>
<tr>
<td>Female Patients</td>
<td>63.2 (n=19)</td>
<td>23.8 (n=21)</td>
<td>7.43 (n=19)</td>
</tr>
<tr>
<td>Male Patients</td>
<td>46.9 (n=32)</td>
<td>41.9 (n=31)</td>
<td>7.33 (n=32)</td>
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<tr>
<td>Overall</td>
<td>52.9 (n=51)</td>
<td>34.6 (n=52)</td>
<td>7.33 (n=51)</td>
</tr>
</tbody>
</table>

Source: Report of Statistical Analysis for NCIC CTG Protocol Number IND.210

¹ This was an interim analysis, as 62 (60.2%) patients out of a total of 103 patients were alive at the time of data cut-off. All of the median survivals noted could change at final analysis.

The abstract reported that the overall test arm had an objective response rate of 52.9% (n=51) versus 34.6% (n=52) in the control arm (p=0.06). The Company conducted a pre-planned analysis of patient responses by gender, as specified in the study protocol. The male patients in the test arm had an objective response rate of 46.9% (n=32) versus 41.9% (n=31) in the control arm (p=0.6747). The female patients in the test arm had an objective response rate of 63.2% (n=19) versus 23.8% (n=21) in the control arm (p=0.0054).

"We are encouraged by these preliminary data from the NCIC study suggesting that the inclusion of REOLYSIN® in the treatment combination may have a profound impact on response rates for women with colorectal cancer," said Dr. Brad Thompson, President and CEO of Oncolytics Biotech Inc. "Various immune-based therapies have
demonstrated a profile where patients derive tumour response and overall survival benefit with limited or no impact on progression free survival. REOLYSIN®, as an oncolytic virotherapy, appears to be demonstrating a similar profile in female patients with advanced or metastatic colorectal cancer. This is a further example of our sponsored randomized Phase II program identifying specific indications, patient populations and endpoints for examination in future trials to be conducted by Oncolytics. Building on these findings, we intend to conduct a study in female metastatic colorectal cancer patients using this treatment regimen combined with a checkpoint inhibitor.

Analysis of Patients with Liver Metastases
The Company conducted an additional analysis of all those patients (both male and female) with liver metastases, with or without metastases to other sites. For patients who had metastases to the liver, those treated with REOLYSIN® had objective tumour response rates of 55% (n=40), versus 28.6% (n=42) for those who did not receive REOLYSIN® (p=0.0077). For the patients who did not have liver metastases (21 of the 103 patients), there was no statistically significant difference in response rate (five of 11 in the test arm, versus 6 of 10 in the control arm).

"When cancer spreads to the liver, treatment becomes more difficult, leading to a drop in response and survival rates," said Dr. Thompson. "Based on these randomized data, we believe that REOLYSIN® may have particular utility in those patients who have late-stage colorectal cancer with liver metastases."

Colorectal Cancer Clinical Program: Next Steps
Based on these results, Oncolytics has filed for a U.S. Phase II run–in study examining the treatment of female patients with metastatic colorectal cancer with FOLFOX-6, bevacizumab, REOLYSIN®, and the checkpoint inhibitor pembrolizumab (KEYTRUDA®). Subject to confirmation of overall responses, liver metastases-specific responses, and immune marker analyses, the Company intends to conduct a registration study using the modified therapeutic regime including pembrolizumab. This will be the second clinical study that Oncolytics is conducting with the addition of a checkpoint inhibitor. Oncolytics is currently conducting a standard of care, REOLYSIN®, and pembrolizumab combination clinical study in patients with advanced pancreatic cancer.

Safety
The abstract also noted that, of grade 3 or higher adverse events, there was less abdominal pain (3.5% versus 17.3%, p=0.02), more hypertension (26.3% versus 3.8%, p=0.001) and more proteinuria (22.8% versus 1.9%, p=0.001) in the test arm than the control arm.

About IND 210
The study is an open-label, multi-institution, randomized, non-blinded, Phase 2 clinical study of patients with advanced or metastatic colorectal cancer. Patients were randomized to receive either REOLYSIN® FOLFOX-6, bevacizumab and REOLYSIN® (test arm) or FOLFOX-6 and bevacizumab alone (control arm). Patients in both arms received FOLFOX-6 and bevacizumab every 14 days, with either REOLYSIN® (test arm) or placebo (control arm) administered on days one through five of cycles 1, 2, 4, 6, 8 and alternate cycles thereafter. Approximately 50 response-evaluable patients were enrolled in each arm, after a six- to nine-patient safety run-in.

The primary endpoint of the trial is progression free survival. Secondary endpoints include changes in CEA levels, objective response rate, overall survival, quality of life, and the tolerability and toxicity of the treatment combination. Other objectives include the measurement of molecular factors which may be prognostic or predictive of response.

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 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements, including the Company’s expectations related to the randomized Phase II study in patients with colorectal 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 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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