

November 9, 2018



Oncolytics Biotech® Announces Presentation at the Society for Immunotherapy of Cancer 2018 Annual Meeting Showcasing Upregulation of PD-L1 Expression with Reovirus Infection

- Oncolytic virus enhances immune checkpoint inhibitor response in prostate cancers

-

CALGARY, Alberta and SAN DIEGO, Nov. 09, 2018 (GLOBE NEWSWIRE) -- Oncolytics Biotech® Inc. (NASDAQ: ONCY) (TSX: ONC), currently developing pelareorep, an intravenously delivered immuno-oncolytic virus, today announced that data will be presented demonstrating pelareorep's ability to upregulate PD-L1 during infection of prostate cancer cells. The presentation is taking place at the Society for Immunotherapy of Cancer (SITC) 2018 Annual Meeting, November 7-11 in Washington, D.C.

The presentation, authored Dr. Hardev Pandha, Professor of Medical Oncology, the University of Surrey, et al., is titled "Reovirus infection of prostate cancer induces upregulation of the negative regulators PD-L1 and BTLA".

"This study has clearly confirmed that oncolytic virotherapy is able to create an inflamed phenotype and sensitize the tumor to immune checkpoint blockade," said Dr. Pandha. "The proinflammatory effects of viral oncolysis may stem from its attraction and activation of natural killer cells, which through the production of chemokines in the tumour, control the levels of stimulatory dendritic cells. This then primes the effector T-cells, increasing the responsiveness of prostate tumours to anti-PD-1 immunotherapy."

Prostate cancers are typically immunologically "cold" tumors, making it difficult to treat this patient population with checkpoint inhibitors due to the non-inflamed tumor type. The study outlines the effectiveness of using oncolytic viral therapy for prostate cancers could be improved with the targeted blockade of PD-1 and CD73. In testing anti-PD-1 and anti-CD73 blockade as a monotherapy and in combination with reovirus therapy, the study validates that oncolytic virotherapy is able to "heat up" the prostatic tumor microenvironment, ultimately sensitizing this area to immune checkpoint blockade and increasing the responsiveness of prostate tumors to anti-PD-1 immunotherapy.

"While prostate cancers are a notoriously difficult indication to treat with immunotherapy, our study showcases how pelareorep can improve the efficacy and responsiveness of checkpoint inhibitors in these hard-to-treat cancers," said Dr. Matt Coffey, President and Chief Executive Officer of Oncolytics Biotech. "Ultimately, in upregulating expression of PD-

L1 and BTLA, our results demonstrate the ways that pelareorep – and oncolytic viruses more broadly – are an optimal combination therapy. These results further validate our interest in immune checkpoint inhibitors, our clinical plans and our business development strategy.”

Additional details can be found on the company website: www.oncolyticsbiotech.com/technology/posters-publications.

Presentation Number: P597
Title: Reovirus infection of prostate cancer induces upregulation of the negative regulators PD-L1 and BTLA
Date: Friday, November 9
Lecture Time: 12:30 p.m. – 2:00 p.m. and 6:30 p.m. – 8:00 p.m.
Location: Hall E
Speakers: Dr. Nicola Annels
Session: Oncolytic Viruses and Intratumoral Therapies

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 immuno-therapy and immune modulator (IMiD) combinations to produce innate and adaptive immune responses. Oncolytics is currently conducting and planning additional studies in combination 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.

Company Contact

Michael Moore
Vice President, Investor Relations & Corporate Communications
858-886-7813
mmoore@oncologytics.ca

Investor Relations

Robert Uhl
Westwicke Partners
858-356-5932
robert.uhl@westwicke.com

Media Contact

Jason Spark
Canale Communications
619-849-6005
jason@canalecomm.com



Source: Oncolytics Biotech, Inc.