

December 15, 2021



Oncolytics Biotech® Announces the Presentation of Preclinical Data Demonstrating the Synergistic Anti-Leukemic Effects of Pelareorep Combined with Azacitidine at the 2021 American Society of Hematology Annual Meeting

- *Treatment with intravenous pelareorep plus azacitidine reduced tumor burden*
- *Treatment with pelareorep and azacitidine dramatically upregulated multiple genes known to drive anti-cancer immune responses*

SAN DIEGO and CALGARY, AB, Dec. 15, 2021 /CNW/ -- Oncolytics Biotech® Inc. (NASDAQ: ONCY) (TSX: ONC) announced preclinical data demonstrating the synergistic anti-leukemic effects of pelareorep combined with the chemotherapeutic agent azacitidine. The data were featured in a poster presentation at the [2021 American Society of Hematology \(ASH\) Annual Meeting](#), which took place from December 11-14, 2021, in Atlanta, Georgia.



Preclinical studies featured in the poster evaluated pelareorep in combination with azacitidine in acute myeloid leukemia (AML) cells *in vitro* and in a leukemia xenograft mouse model. Key data and conclusions from the poster include:

- Compared to either treatment alone, treatment with pelareorep plus azacitidine led to a statistically significant reduction ($p < 0.01$) in tumor burden in a leukemia xenograft mouse model
- Compared to either treatment alone, treatment with pelareorep plus azacitidine led to a statistically significant ($p < 0.001$) synergistic enhancement of anti-leukemic activity against AML cell lines, a benefit that was confirmed in AML patient samples *in vitro*

- The combination of pelareorep and azacitidine dramatically upregulated multiple genes known to drive anti-cancer immune responses such as *IFNβ1*, *BATF2*, *IL-12β*, *CCL2*, *TLR3*, and *PD-L1*

"These compelling preclinical findings, together with previously reported data demonstrating clinical proof-of-concept in multiple myeloma, indicate that pelareorep's immunotherapeutic effects extend across multiple hematological malignancies. They also further highlight pelareorep's potential to enhance the efficacy of a wide range of cancer therapeutics and have stimulated interest in investigator-sponsored clinical studies of pelareorep in leukemia," said Thomas Heineman, M.D., Ph.D., Global Head of Clinical Development and Operations at Oncolytics. "Given its ability to be administered intravenously without special handling procedures, pelareorep exerts a systemic effect that is uniquely suited to address liquid tumors compared to other oncolytic viruses. We look forward to leveraging collaborative relationships to continue evaluating pelareorep in hematological malignancies, which will allow us to potentially broaden its therapeutic impact while maintaining our primary focus on our lead breast cancer program."

A copy of the ASH poster titled, "*The Clinical Oncolytic Reovirus Formulation Reolysin Synergistically Augments the Anti-Leukemic Activity of Azacitidine*," is available on the *Posters & Publications* page of Oncolytics' website ([LINK](#)).

About Oncolytics Biotech Inc.

Oncolytics is a biotechnology company developing pelareorep, an intravenously delivered immunotherapeutic agent. This compound induces anti-cancer immune responses 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 oncology treatments. Oncolytics is currently conducting and planning clinical trials evaluating pelareorep in combination with checkpoint inhibitors and targeted therapies in solid and hematological malignancies as it advances towards a 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 contained in this press release include statements regarding Oncolytics' belief as to the potential and benefits of pelareorep as a cancer therapeutic; Oncolytics' expectations as to the purpose, design, outcomes and benefits of its current or pending clinical trials involving pelareorep; the potential to leverage collaborative relationships to continue evaluating pelareorep and potentially broaden its therapeutic impact; and other statements related to anticipated developments in Oncolytics' business and technologies. In any forward-looking statement in which Oncolytics expresses an expectation or belief as to future results, such expectations or beliefs are expressed in good faith and are believed to have a reasonable basis, but there can be no assurance that the statement or expectation or belief will be achieved. Such forward-looking statements involve known and unknown risks

and uncertainties, which could cause Oncolytics' 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, Oncolytics' 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 Oncolytics 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 Oncolytics' 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 any obligation to update these forward-looking statements, except as required by applicable laws.

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