



**Oncorus Presents Preclinical Data Supporting the Advancement of its Lead  
Oncolytic Virus Therapy Clinical Candidate, ONCR-177**

*-- Intra-tumoral administration in multiple preclinical tumor models results in high partial and complete response rates on both injected and non-injected tumors --*

*-- Five-transgenes potently stimulate systemic anti-tumor immunity;  
novel miR attenuation strategy allows for selective oncolysis of tumor cells --*

**CAMBRIDGE, Mass., April 1, 2019** – Oncorus, Inc., an oncolytic virus therapeutics company focused on driving innovation to transform outcomes for cancer patients, unveiled preclinical data yesterday supporting the clinical advancement of its lead oncolytic virus candidate, ONCR-177, during an oral presentation at the American Association for Cancer Research (AACR) Annual Meeting 2019. The data demonstrated that intra-tumoral administration of ONCR-177 resulted in high partial and complete response rates on both injected and non-injected tumors in preclinical models of several tumor types, including immune-inert, or cold, tumors. Responses were durable resulting in an extension of survival and the establishment of protective immunity against tumor re-challenge.

ONCR-177, a locally administered oncolytic virus therapy for the treatment of multiple solid tumor indications, is built on Oncorus' proprietary, next-generation oncolytic herpes simplex virus (HSV) platform. ONCR-177 is armed with five transgenes, IL-12, CCL4, FLT3L, and CTLA-4 and PD-1 antagonists – representing the largest payload in the oncolytic virus therapy class – for potent stimulation of anti-tumor immunity. The therapy also employs an innovative microRNA (or miR)-attenuation strategy to enable selective viral replication in tumor cells, while preventing replication in healthy tissue.

“We are excited to share these important data driving the clinical advancement of ONCR-177,” said Theodore (Ted) Ashburn, M.D., Ph.D., President and Chief Executive Officer of Oncorus. “We are highly encouraged by the responses we’ve seen to treatment with ONCR-177 in multiple preclinical models as a result of the proprietary potency and safety innovations we have engineered. Our team continues to make remarkable progress on several fronts as we advance our best-in-class portfolio of oncolytic virus therapies for both local and systemic administration toward the clinic with the goal of transforming outcomes for cancer patients.”

Oncorus plans to file an investigational new drug application (IND) for ONCR-177 in 2019. In addition to its oncolytic HSV platform, Oncorus is also developing a novel synthetic oncolytic virus platform to enable the development of oncolytic virus therapies for repeated, systemic administration for uninjectable tumors, such as those of the lung.

## About the Preclinical Findings

Nonclinical pharmacology studies were conducted with the mouse surrogate mONCR-171, which expresses within the same base vector as ONCR-177 the mouse equivalent to the ONCR-177 transgenes. Intra-tumoral administration of mONCR-171 in the oHSV-sensitive A20 BALB/c lymphoma bilateral tumor model resulted in response rates (partial and complete tumor regressions) of 100% and 80%, respectively, on the injected (ipsilateral) and distant (contralateral) uninjected tumor. mONCR-171 was also highly efficacious in the B16F10 melanoma model, an oHSV-resistant C57BL/6 based tumor model engineered to be permissive to oHSV by introduction of nectin-1, and in two colon carcinoma models CT26 and MC38.

mONCR-171 treatment resulted in increased numbers of activated NK cells, CD8+ and CD4+ effector T cells, and classical dendritic cells. The proportion of regulatory T cells, or Tregs, decreased, resulting in large increases CD8/Treg ratios. These changes in immune contexture occurred in both injected and uninjected tumors. They were more pronounced with mONCR-171 treatment compared to the base vector without transgenes (ONCR-159), indicating that the observed abscopal effects were due to ONCR-177's elicitation of systemic anti-tumor immunity mediated in part by its payload of multiple transgenes.

"Due to their ability to kill cancer cells while eliciting a potent systemic antitumor immune response, ONCR-177 represents a potentially transformational treatment modality for cancer, as a monotherapy and in combination with checkpoint inhibitors," said Christophe Quéva, Ph.D., Oncorus' Chief Scientific Officer. "At Oncorus, we have made important strides to overcome the 'potency versus safety' tradeoff that has historically challenged this class of therapeutics, and we look forward to moving ONCR-177 into the clinic."

Oncorus has three additional poster presentations at the AACR meeting showcasing the company's proprietary potency and safety innovations for both its oncolytic HSV and synthetic oncolytic virus platforms, including:

### **Abstract #: 1455**

**Title:** Design of ONCR-177 base vector, a next generation oncolytic herpes simplex virus type-1, optimized for robust oncolysis, transgene expression and tumor-selective replication

**Session:** PO.IM02.08 -- Cancer Vaccines and Intra-tumoral Immunomodulation

**Date and Time:** Monday, April 1, 2019 / 8:00 am – 12:00 pm EDT

**Location:** Poster Section 22

**Abstract Link:** <https://www.abstractsonline.com/pp8/#!/6812/presentation/2749>

### **Abstract #: 1452**

**Title:** Development of ONCR-148, a miR-attenuated oncolytic HSV-1 designed to potently activate antitumor T cell response

**Session:** PO.IM02.08 -- Cancer Vaccines and Intra-tumoral Immunomodulation

**Date and Time:** Monday, April 1, 2019 / 8:00 am – 12:00 pm EDT

**Location:** Poster Section 22

**Abstract Link:** <https://www.abstractsonline.com/pp8/#!/6812/presentation/2746>

**Abstract #: 4773**

**Title:** Development of ONCR-NEP, a lipid nanoparticle delivered oncolytic virus capable of robust in situ amplification resulting in tumor lysis and regression

**Session:** PO.ET08.01 -- Gene- and Vector-based Therapy

**Date and Time:** Wednesday, April 3, 2019 / 8:00 am – 12:00 pm EDT

**Location:** Poster Section 12

**Abstract Link:** <https://www.abstractsonline.com/pp8/#!/6812/presentation/1354>

**About Oncorus**

At Oncorus, we are driving innovation to deliver next-generation, best-in-class oncolytic virus therapies to transform outcomes for cancer patients. We are advancing a portfolio of locally and systemically administered oncolytic virus therapies for a broad spectrum of indications with significant unmet needs based on our oncolytic herpes simplex virus and synthetic oncolytic virus platforms. Our team has engineered proprietary, multidimensional innovations into both platforms to enable us to deliver on the full potential of oncolytic virus therapies to dramatically improve outcomes for cancer patients. Please visit [www.oncorus.com](http://www.oncorus.com) to learn more.

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