

Junction opening protein boosts cancer-killing effect of oncolytic virus

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A new study shows that the anti-tumor effect of oncolytic virus therapy is significantly greater in mice when the virus is genetically modified to express a junction opening (JO) protein, which helps the cancer-killing agent better penetrate solid tumors. The potential for JO to improve cancer therapy with various types of oncolytic viruses is described in *Human Gene Therapy*,.

Roma Yumul, Maximilian Richter, and coauthors, University of Washington, Compliment Corp., and PAI Life Sciences Inc. (Seattle,

WA), Chinese Center for Disease Control and Prevention (Beijing, PR China), and BRIM Biotechnology Inc. (Taipei, Taiwan), explain how the tight junctions between malignant epithelial cells allow [solid tumors](#) to resist the effects of anticancer drugs including [oncolytic viruses](#).

In the article "Epithelial Junction Opener Improves Oncolytic Adenovirus Therapy in Mouse Tumor Models," the researchers demonstrate that administering the JO protein together with an oncolytic adenovirus into the tumors of mice, or engineering the virus to produce and secrete the JO protein inside tumor cells, greatly enhances the antitumor effect compared to treatment with unmodified virus.

This article is part of a Festschrift in honor of George Stamatoyannopoulos, MD, DrSci, Professor of Medicine and Genome Sciences, and Director, Markey Molecular Medicine Center, University of Washington, Seattle.

"Oncolytic adenoviruses are rapidly making a big impact in [therapy](#) for many different cancers," says Editor-in-Chief Terence R. Flotte, MD, Celia and Isaac Haidak Professor of Medical Education and Dean, Provost, and Executive Deputy Chancellor, University of Massachusetts Medical School, Worcester, MA. "The concept of enhancing the penetration of such viruses into tumors using an epithelial junction opener promises to improve the success rate of such therapies in bulkier solid tumors, which are often very hard to treat."

More information: Roma Yumul et al, Epithelial Junction Opener Improves Oncolytic Adenovirus Therapy in Mouse Tumor Models, *Human Gene Therapy* (2016). [DOI: 10.1089/hum.2016.022](https://doi.org/10.1089/hum.2016.022)

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