

FULL TEXT LINKS



➤ [Expert Opin Biol Ther](#). 2023 Feb 21. doi: 10.1080/14712598.2023.2184256. Online ahead of print.

# Oncolytic virus therapy for malignant gliomas: entering the new era

Hiroataka Fudaba <sup>1 2</sup>, Hiroaki Wakimoto <sup>1</sup>

## Affiliations

<sup>1</sup> Department of Neurosurgery, Massachusetts General Hospital and Harvard Medical School, Boston, MA 02114, USA.

<sup>2</sup> Department of Neurosurgery, Oita University Faculty of Medicine, Yufu, 879-5593 Japan.

PMID: 36809883 DOI: [10.1080/14712598.2023.2184256](https://doi.org/10.1080/14712598.2023.2184256)

## Abstract

**Introduction:** To overcome the challenge of treating malignant brain tumors, oncolytic viruses (OVs) represent an innovative therapeutic approach, featuring unique mechanisms of action. The recent conditional approval of the oncolytic herpes simplex virus G47Δ as a therapeutic for malignant brain tumors marked a significant milestone in the long history of OV development in neuro-oncology.

**Areas covered:** This review summarizes the results of recently completed and active clinical studies that investigate the safety and efficacy of different OV types in patients with malignant gliomas. The changing landscape of the OV trial design includes expansion of subjects to newly diagnosed tumors and pediatric populations. A variety of delivery methods and new routes of administration are vigorously tested to optimize tumor infection and overall efficacy. New therapeutic strategies such as combination with immunotherapies are proposed that take advantage of the characteristics of OV therapy as an immunotherapy. Preclinical studies of OV have been active and aim to translate new OV strategies to the clinic.

**Expert opinion:** For the next decade, clinical trials, and preclinical and translational research will continue to drive the development of innovative OV treatments for malignant gliomas, and benefit patients and define new OV biomarkers.

**Keywords:** brain tumor; clinical trial; glioma; immunotherapy; oncolytic virus therapy; preclinical study; tumor microenvironment.

## LinkOut – more resources

Full Text Sources

[Taylor & Francis](#)