

Review Curr Neurol Neurosci Rep. 2023 Oct 9. doi: 10.1007/s11910-023-01299-7.

Online ahead of print.

# Molecular Profiling and Targeted Therapies in Gliomas

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PMID: 37812369 DOI: [10.1007/s11910-023-01299-7](https://doi.org/10.1007/s11910-023-01299-7)

## Abstract

**Purpose of review:** Molecular profiling enables the evaluation of genetic alterations for the diagnosis and classification of gliomas and the selection of appropriate therapies. This review summarizes the current role of molecular profiling and targeted therapies for gliomas.

**Recent findings:** Molecular profiling is an integral part of the 2021 WHO classification of gliomas. Progress in the development of targeted therapies remains limited due to many factors including the presence of the blood-brain barrier and issues of tumor heterogeneity. Nonetheless, advances have been made with the IDH1/2 inhibitor vorasidenib for IDH-mutant grade 2 gliomas, the combination of dabrafenib and trametinib for BRAFV600E mutated gliomas, and the therapies for subsets of patients with fusions and H3K27M-altered diffuse midline gliomas. While there has been progress in the use of molecular profiling for the classification and treatment of gliomas, much work remains for targeted therapies to realize their potential.

**Keywords:** Glioblastoma; Glioma; Molecular profiling; Targeted therapy.

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