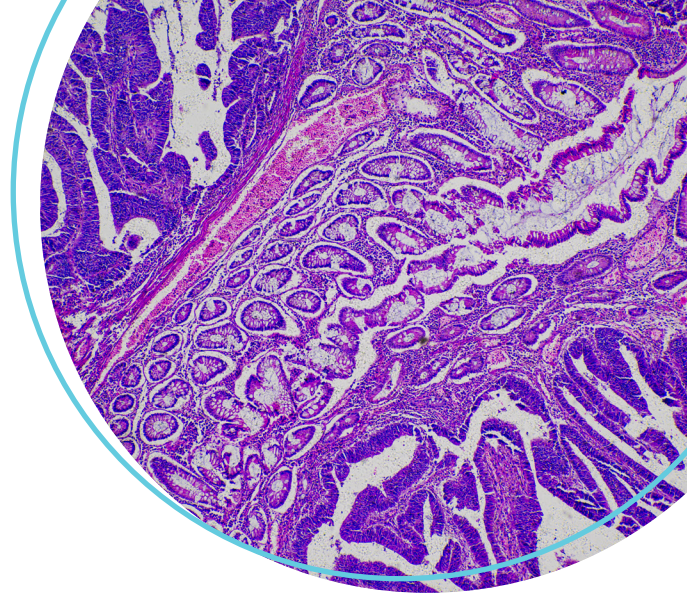


Gliomas



Prevalence and Survival

- Gliomas are the most common primary intracranial tumor, representing 81% of malignant brain tumors¹
- Glioblastoma is the most common primary malignant glioma, accounting for approximately 50% of all primary brain tumors²
- More than 12,000 cases of glioblastoma are diagnosed in the United States each year³
- The five-year survival rate for glioblastoma patients is only 6.9%, and the average length of survival is estimated to be approximately 8 months²

Diagnostic Testing for Gliomas and CNS tumors

The 2021 WHO classification emphasizes the importance of integrating molecular data with histological features for a comprehensive diagnosis of gliomas⁴. This highlights that molecular testing is now an essential part of diagnostic workup for gliomas and other CNS tumors.

Molecular alterations prevalent in gliomas have prognostic implications and are associated with overall survival

- Co-deletion of chromosome arms 1p and 19q (1p/19q co-deletion) is associated with the diagnostic classification of oligodendrogliomas and predicts a favorable response to alkylating chemotherapy.
- Mutations in the IDH1 or IDH2 genes are associated with distinct tumor metabolism, improved prognosis and is a target of FDA-approved and emerging therapeutics
- Mutations in the promoter region of the TERT gene have diagnostic and prognostic significance
- MGMT promoter methylation is associated with improved response to alkylating chemotherapy and better overall prognosis in gliomas.
- BRAF mutations, particularly the V600E mutation, are significant drivers of disease in pediatric low-grade gliomas and are also present in a subset of glioblastomas.

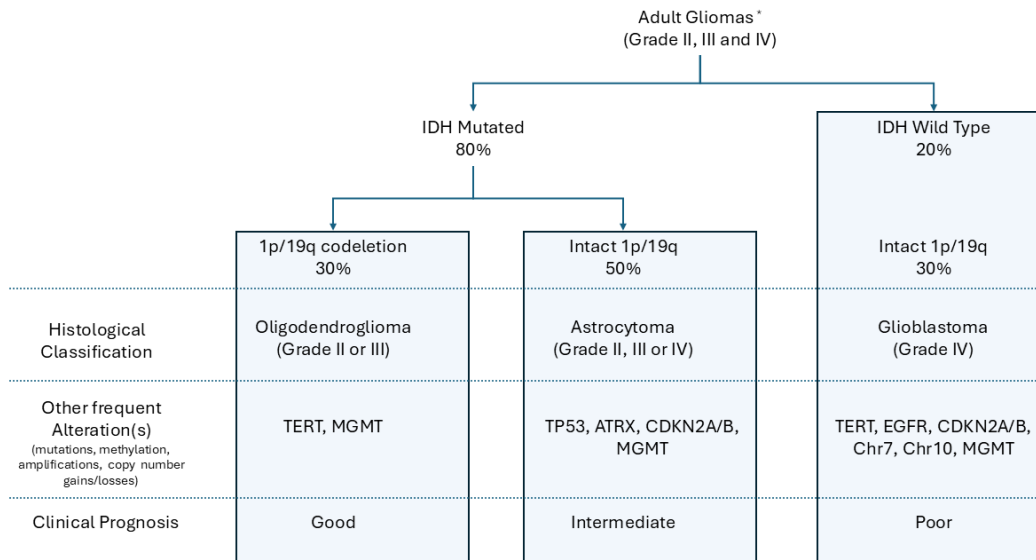
The simultaneous assessment of these biomarkers enables diagnostic classification, prognostic determination and improved prediction of therapy response and outcomes for patients with gliomas.

Labcorp Oncology Testing Services

Labcorp Oncology offers a comprehensive testing menu for gliomas, including:

- 1p/19q co-deletion (FISH)
- *TERT* promoter mutation
- *IDH1/2* mutation
- *MGMT* promoter methylation
- *BRAFV600E* mutation
- OmniSeq® INSIGHT - a 523 gene comprehensive genomic and immune profiling assay, including MSI, TMB, *EGFR* amplification, *EGFRVIII* and mutations in *IDH1/2*, *BRAF*, *FGFR*, *pTERT*, *TP53* and *ATRX*, among others
- Reveal® SNP Microarray - Cytogenetics Solid Tumor Array for detecting copy number alterations including gains of chromosome 7 and loss of chromosome 10, *EGFR* amplification, *CDKN2A/B* deletions

Diffuse Glioma Classification Using Molecular Biomarkers^{5,6}



* - the list of molecular alterations in this graphic is not exhaustive

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