

High-Grade Glioma Diagnosis

see [Glioma Diagnosis](#).

see [Glioblastoma diagnosis](#).

Results highlighted the role of [PTX3](#) and [TIMP1](#) which were previously considered in [Gliomagenesis](#) as well as [LTF](#) as a new potential [biomarker](#) ¹⁾.

[Neurite orientation dispersion](#) (NODDI) seems to be useful in reflecting the [high-grade glioma](#) infiltration to [corticospinal tract](#) (CST), and can evaluate the CST destruction with a performance similar to [DTI](#) by providing additional information about neurite density for HGG-induced CST injury ²⁾.

Fujioka et al. established a novel, non-invasive [molecular diagnostics](#) using a chip-based [digital PCR](#) system targeting [circulating tumor DNA](#) derived from [CSF](#) with high [sensitivity](#) and [specificity](#), especially for [high-grade gliomas](#) ³⁾.

Usually, [low-grade gliomas](#) show no increase in tumor rCBV, whereas high-grade gliomas demonstrate high [relative cerebral blood volume](#) (rCBV) that in some cases even extends outside the contrast-enhancing portions of the tumor ⁴⁾.

see [Stereotactic biopsy of high-grade glioma](#).

They require [MGMT](#), [isocitrate dehydrogenase](#) (IDH) and [1p/19q co-deletion](#) status, the determination of these [molecular](#) diagnostics should be prioritized

High-Grade Glioma Magnetic resonance imaging

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¹⁾

Ahmadi-Beni R, Shahbazi S, Khoshnevisan A. An integrative bioinformatics investigation and experimental validation of critically involved genes in high-grade gliomas. *Diagn Pathol*. 2022 Sep 24;17(1):73. doi: 10.1186/s13000-022-01253-0. PMID: 36153549.

²⁾

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³⁾

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Funakoshi Y, Sako A, Iwaki T, Iihara K, Mizoguchi M. Molecular diagnosis of diffuse glioma using a chip-based digital PCR system to analyze IDH, TERT, and H3 mutations in the cerebrospinal fluid. J Neurooncol. 2021 Jan 8. doi: 10.1007/s11060-020-03682-7. Epub ahead of print. PMID: 33417137.⁴⁾

Hu L. S. et al. Correlations between perfusion MR imaging cerebral blood volume, microvessel quantification, and clinical outcome using stereotactic analysis in recurrent high-grade glioma. AJNR Am J Neuroradiol 33, 69-76, 10.3174/ajnr.A2743 (2012).

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