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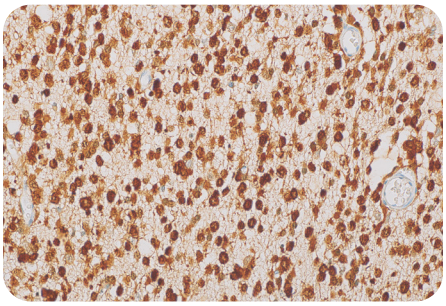
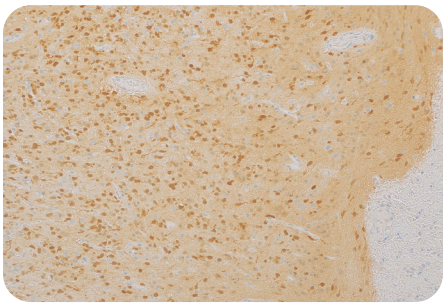
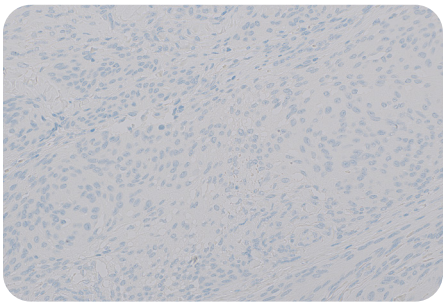
Cell Marque™ Tissue Diagnostics

IDH1 R132H (MRQ-67)







Images (top to bottom)

1. oligodendroglioma
2. astrocytoma
3. meningioma

Gliomas, the most common type of primary brain tumors, are intra-axial brain neoplasms that are subtyped by the type of glial cells that comprise the tumor. Gliomas are classified by WHO grades, with grade I generally being treatable and considered benign, grades II and III being more aggressive and invasive and likely to progress to higher grades, and grade IV (also known as glioblastoma) being the most aggressive and poorest prognosis.[1] Current existing IHC antibodies such as GFAP, OLIG2 and myelin basic protein (MBP) help to differentiate and subtype gliomas in algorithms but don't detect mutations that identify malignancies.

Grade II and grade III gliomas morphologically may resemble a benign process called reactive gliosis that occurs when there is brain trauma or other non-neoplastic neuropathologies. A high percentage of grade II and grade III gliomas exhibit a mutation at codon 132 of metabolic enzyme isocitrate dehydrogenase 1 (IDH1) where amino acid histidine (H) is converted from amino acid arginine (R), whereas reactive gliosis doesn't exhibit this IDH1 R132H mutation. While the wild-type IDH1 doesn't correspond with any specific neural diagnostic application, the specific IDH1 R132H mutant immunohistochemical stain may be utilized by pathologists to differentiate grade II and grade III gliomas (malignant) from reactive gliosis (benign).[2]

Benefits of IDH1 R132H:

- For *in vitro* diagnostic use
- Rabbit monoclonal technology
- Compatible with multiple automated platforms
- R132H mutant aids in differentiating grade II and grade III gliomas from reactive gliosis[3]
- IDH1 R132H helps differentiate IDH1+ glioblastoma (oligodendroglial component) from IDH1- glioblastoma (small cell component)[4]
- Detects IDH1 R132H mutations in acute myeloid leukemia[5]
- Compares favorably to existing mouse monoclonal versions of IDH1 R132H
- Exclusive IVD designation for neural tumor applications in the United States

Ordering Information

Volume	Cat. No.
0.1 mL concentrate	**456R-34**
0.5 mL concentrate	**456R-35**
1.0 mL concentrate	**456R-36**
1.0 mL predilute	**456R-37**
7.0 mL predilute	**456R-38**

References

1. Hai Yan, et al. N Engl J Med. 2009; 360(8):765-73.
2. Varuna Sipayya, et al. J Cancer Res Ther. 2012; 8(4):598-601.
3. David Capper, et al. Am J Surg Pathol. 2010; 34(8):1199-204.
4. Nancy M Joseph, et al. Mod Pathol. 2013; 26(3):315-26.
5. Dinesh Rakheja, et al. Hum Pathol. 2012; 43(10):1541-51.

Intended Use
The product herein is intended for laboratory use in the detection of the IDH1 R132H in formalin-fixed, paraffin-embedded tissue stained in qualitative immunohistochemistry (IHC) testing. This product is not a stand-alone diagnostic, and cannot be used for diagnosis, treatment, prevention, or mitigation of disease.

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