

**Rabbit Anti-IDH1-R132H [MD151R]: RM0124-0.5, RM0124, RM0124RTU7**

**Intended Use:** For Research Use Only

**Description:** A member of this family, IDH1, is the human cytoplasmic NADP-specific enzyme. Its subcellular localization was shown to be in both peroxisomes and the cytoplasm. Although the function and structure of the protein has been well characterized, mutations in the gene have only recently been implicated in cancer after a genome-wide mutation study of glioblastomas, acute myeloid leukemias (AML) and chondrosarcomas. Mutations in IDH1 are specific to Arg132 (R132) and endow them with the function of generating 2-hydroxyglutarate (2HG) instead of αKG. This product alters gene transcription through effects on DNA and histone methylation. Several IDH1 mutations exist, including R132H, R132C, R132S, R132G and R132L. Each may result in different tumor type with varied malignant progression. The most frequent known mutation (>90%) is the alteration of arginine to histidine (R132H). Hence, antibodies that recognize the IDH1R132H mutation can be useful for the detection of mutation-bearing tumors like gliomas. The high frequency of IDH1 R132H mutation in lowgrade and anaplastic gliomas and secondary glioblastomas correlates with favorable patient survival times. Rational IDH1 R132H testing supports neuropathological differential assay. The high frequency and distribution of the IDH1 R132H mutation among specific brain tumor entities allow the highly sensitive and specific discrimination of various tumors by immunohistochemistry, such as anaplastic astrocytoma from primary glioblastoma or diffuse astrocytoma WHO grade II from pilocytic astrocytoma or ependymoma.

**Specifications**

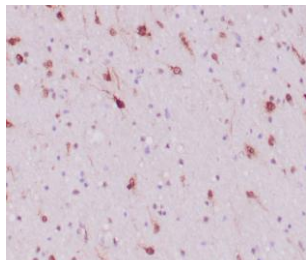
Clone: MD151R  
 Source: Rabbit  
 Isotype: IgG  
 Reactivity: Human  
 Immunogen: Recombinant fragment of human IDH1 protein aa 281-414  
 Localization: Cytoplasm  
 Formulation: Antibody in PBS pH7.4, containing BSA and ≤ 0.09% sodium azide (NaN<sub>3</sub>)  
 Storage: Store at 2° - 8°C  
 Applications: IHC  
 Package:

Description	Catalog No.	Size
IDH1-R132H Concentrated	RM0124-0.5	0.5 ml
IDH1-R132H Concentrated	RM0124	1 ml
IDH1-R132H Prediluted	RM0124RTU7	7 ml

**IHC Procedure\***

Positive Control Tissue: Oligodendroglioma, diffuse astrocytoma  
 Concentrated Dilution: 50-500  
 Pretreatment: Tris EDTA pH9.0, 15 minutes Pressure Cooker or 30-60 minutes water bath at 95°-99°C  
 Incubation Time and Temp: 30-60 minutes @ RT  
 Detection: Refer to the detection system manual

\* Result should be confirmed by an established diagnostic procedure.



FFPE human glioblastoma stained with anti-IDH1-R132H using DAB

**References**

1. Comprehensive Metabolomic Analysis of IDH1R132H Clinical Glioma Samples Reveals Suppression of β-oxidation Due to Carnitine Deficiency. Satsuki Miyata, et al. Scientific Reports volume 9, 2019.
2. Combined "Infiltrating Astrocytoma/Pleomorphic Xanthoastrocytoma" Harboring IDH1 R132H and BRAF V600E Mutations. Yamada S, et al. Am J Surg Pathol. Feb;40(2):279-84, 2016.