

Anti-IDH1 R132H / DIA-H09 / BSA free Mouse monoclonal anti-brain tumor marker (Astrocytoma, Oligodendroglioma), Clone H09

Product Information

Catalog No.:	DIA-H09-SB-01 - 100µg DIA-H09-SB-02 - 200µg DIA-H09-SB-05 - 500µg antibody lyophilizate w/o BSA	Reconstitution:	DIA-H09-SB-01/-02: Reconstitute with 500µl PBS pH7.4, 0.05% NaN3. DIA-H09-SB-05: Reconstitute with 1ml PBS pH7.4, 0.05% NaN3 Leave liquid 15min on antibody film/pellet, redissolve antibody by vortexing.
Clone:	H09	Presentation:	PBS pH 7.4, 0.05% NaN3, pH 7.4. Antibody purified from culture sup. by goat anti-mouse affinity chromatography
Isotype:	Mouse IgG2a	Applications:	Immunohistochemistry (standard formalin-fixed paraffin sections) Western blot
Specificity:	Human IDH1 R132H point mutation	Dilutions:	1:50-1:200 Immunohistochemistry (IHC) 1:500-1:1000 Western Blot (General recommendation, validation of antibody performance/protocol is the responsibility of the end user. Run positive/negative controls simultaneously with tissue specimen)
Immunogen:	Synthetic peptide, amino acid sequence CKPIIIGHHAYGD		
Physical State:	Lyophilized film/powder (SpeedVac)		
Species			
Reactivity:	Human		
Positive Control:	Oligodendroglioma, diffuse astrocytoma		
Negative Control:	Pilocytic astrocytoma, primary glioblastoma (ca. 95% of cases negative)		
Visualization:	Cytoplasmic		

Reactivity

Antibody clone H09 reacts specifically with the isocitrate dehydrogenase 1 (IDH1) R132H point mutation in tissue sections from formalin-fixed brain tumor specimens. Heterozygous point mutations of IDH1 codon 132 are frequent in World Health Organization (WHO) grade II and III gliomas. IDH1 R132H mutations occur in approximately 70% of astrocytomas and oligodendroglial tumors. 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. Noteworthy is the discrimination of the infiltrating edge of tumors with IDH1 mutation from reactive gliosis. This antibody is highly useful for tumor classification and in detecting single infiltrating tumor cells. The routine practical approach for diagnosing astrocytomas and oligodendrogliomas begins with performing IHC for IDH1 R132H and ATRX expression (Reuss et al., 2015).

Instructions for Use

Immunohistochemical staining of standard formalin-fixed paraffin sections

Carefully reconstitute thin BSA-free antibody film: Add 500µl PBS PH7.4, 0,05% NaN3 and leave 15min on antibody lyophilizate and vortex to redissolve the antibody. Deparaffinize and rehydrate according to standard procedures. Heat induced epitope retrieval (HIER) is required. For immunohistochemical detection different techniques can be used: Indirect immunoenzyme labeling with a secondary antibody conjugate, biotin/(strept)avidin-based detection, soluble enzyme immune complex or polymer-based detection. To detect antibody, follow the instructions provided with the particular visualization system. The antibody is suited for immuno-histochemical staining using automated platforms. Use the antibody at 1:50-1:200 dilution for 30min at RT.

Technical note

Diffuse astrocytoma WHO grade II may have low protein-expression. At high dilution of the antibody single tumor cells in the infiltration zone may not be stained.

Storage and Stability

Store the lyophilized antibody at 2-8°C. For long time storage freeze at -20°C, thus the antibody is stable for at least one year. As reconstituted liquid store at 2-8°C short term (several weeks). For long term storage aliquot and freeze at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

For research use only. Not for diagnostic or therapeutic use.



Figures

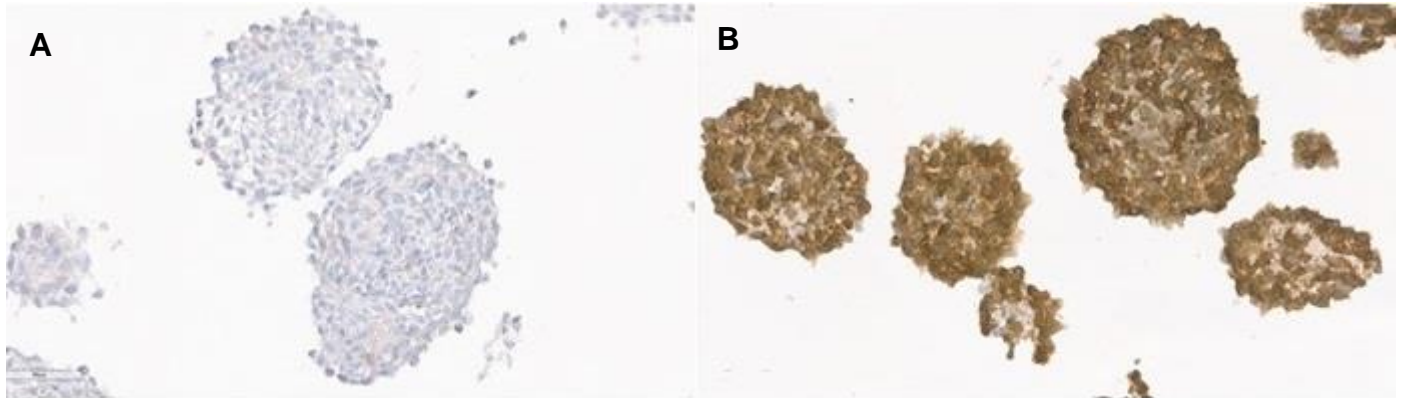
Immunohistochemistry of human IDH1 R132H in Glioblastoma Spheroids.

Glioblastoma Spheroids of an IDH1 wt (A) and an IDH1 R132H mutated (B) secondary Glioblastoma attached to a glass slide by cytopsin centrifugation after immunohistochemistry with antibody clone H09.

(pictures courtesy of Prof. Dr. Stefan Pusch, Department of Neuropathology, University Heidelberg / Clinical Cooperation Unit Neuropathology, German Cancer Research Center (DKFZ), Heidelberg, Germany)

A: No signal of IDH1 mutation specific antibody clone H09 in nonmutated IDH1 wt cells.

B: Strong reaction of IDH1 mutation specific antibody clone H09 in cells harboring IDH1 R132H point mutation.



References

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5. Schumacher T et al. A vaccine targeting mutant IDH1 induces antitumour immunity. *Nature* 512: 324-327, 2014
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