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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Anti-IDH1 mutant [MsMab-1] Standard Size Ab03871-10.0

Isotype and Format: Human IgG1, Kappa

Clone Number: MsMab-1

Alternative Name(s) of Target: IDH; IDH1; IDPc; Isocitrate dehydrogenase [NADP] cytoplasmic; Isocitrate dehydrogenase 1; Cytosolic NADP-isocitrate dehydrogenase; NADP(+)-specific ICDH; Oxalosuccinate decarboxylase; IDH2; Isocitrate dehydrogenase [NADP]; mitochondrial; ICD-M; IDP; NADP(+)-specific ICDH; Oxalosuccinate decarboxylase

UniProt Accession Number of Target Protein: O75874; P48735

Published Application(s): WB, ELISA, IHC

Published Species Reactivity: Human

Immunogen: The original antibody was generated by immunizing BDF1 mice with synthetic IDH1-R132G peptide of 19 amino acids (GGVKPIIIGGHAYGDQYRA) conjugated with KLH.

Specificity: This antibody binds human isocitrate dehydrogenase 1 (IDH1) having R132H, R132C, R132S, R132G and R132L mutations and does not cross react with wild-type IDH1 protein. It also recognizes IDH2-R172M (GGTKPITIGMHAHGDQYKA) and IDH2-R172S (GGTKPITIGSHAHGDQYKA). IDH1 is an enzyme that catalyzes the NADP+-dependent oxidative decarboxylation of isocitrate (D-threo-isocitrate) to 2-ketoglutarate (2-oxoglutarate), which is required by other enzymes such as the phytanoyl-CoA dioxygenase. It plays a critical role in the generation of NADPH, an important cofactor in many biosynthesis pathways. The NADPH produced from isocitrate dehydrogenase 1 is involved in the breakdown of fats for energy, and it also protects cells from potentially harmful molecules called reactive oxygen species. Mutation in IDH1 are found in several genetic conditions and in some types of cancer, including gliomas, cartilaginous tumors, acute myelogenous leukemia, myelodysplastic syndromes, and brain cancer.

Application Notes: The binding reactivity of this antibody to wild-type IDH1 and its mutants (R132H, R132C, R132S, R132G and R132L) peptides was determined using ELISA. Western blot analysis also revealed that MsMab-1 reacted with recombinant proteins of IDH1-R132H, IDH1-R132S, and IDH1-R132G, but not with wild type IDH1 and other IDH1 mutations. This antibody also recognizes IDH2-R172M protein, despite that the IDH1-R132G peptide shows only 73.7% identity with the equivalent portion of IDH2-R172M (GGTKPITIGMHAHGDQYKA). This antibody successfully stained the IDH1-R132S or IDH1-R132G-expressing glioma cells in immunohistochemistry (PMID: 23782684). This antibody can bind IDH2-R172S mutant of IDH2 in an ELISA and can recognize PA-tagged IDH2-R172S recombinant protein in a western blot. This antibody was also used to stain IDH2-R172S-expressing osteosarcoma tissues in immunohistochemistry (PMID: 24403254). A complete summary of the reactivity of this antibody towards various IDH1 and IDH2

mutants can be found in Liu et. al, 2013 (PMID: 24403254).

Antibody First Published in: Kaneko et al. Establishment of a multi-specific monoclonal antibody MsMab-1 recognizing both IDH1 and IDH2 mutations. *Tohoku J Exp Med.* 2013 Jun;230(2):103-9. [PMID:23782684](#)

Note on publication: Describes the generation of a multi-specific antibody that is capable of identifying both IDH1 and IDH2 mutations and can be used in the immunohistochemical determination of glioma cells.

Product Form

Size: 100 µg Purified antibody.

Purification: Protein A affinity purified

Supplied In: PBS with 0.02% Proclin 300.

Storage Recommendation: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

Concentration: 1 mg/ml.

Important note - This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.