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IDH1 Antibody
Catalog # ASC11154

Specification

IDH1 Antibody - Product Information

Application	**WB**
Primary Accession	O75874
Other Accession	NP_005887, 28178825
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Application Notes	**IDH1 antibody can be used for detection of IDH1 by Western blot at 1 - 2 µg/mL.**

IDH1 Antibody - Additional Information

Gene ID **3417**

Target/Specificity
IDH1;

Reconstitution & Storage
IDH1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
IDH1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

IDH1 Antibody - Protein Information

Name IDH1

Synonyms PICD

Function
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 (PubMed:10521434, PubMed:19935646). Plays a critical role in the generation of NADPH, an important cofactor in many biosynthesis pathways (PubMed:10521434). May act as a corneal epithelial crystallin and may be involved in maintaining corneal epithelial transparency (By similarity).

Cellular Location
Cytoplasm, cytosol. Peroxisome

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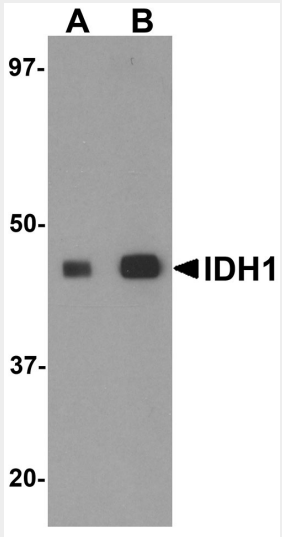
IDH1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

IDH1 Antibody - Images



Western blot analysis of IDH1 in HepG2 cell lysate with IDH1 antibody at (A) 1 and (B) 2 µg/mL.

IDH1 Antibody - Background

IDH1 Antibody: Isocitrate dehydrogenases catalyze the oxidative decarboxylation of isocitrate to 2-oxoglutarate. These enzymes belong to two distinct subclasses, one of which utilizes NAD(+) as the electron acceptor and the other NADP(+). Two NADP(+)-dependent isocitrate dehydrogenases have been found as homodimer: IDH1 is predominantly cytosolic and peroxisomal and IDH2 is mitochondrial. The presence of IDH1 in peroxisomes suggests it may play a role in the regeneration of NADPH for intraperoxisomal reductions, such as the conversion of 2, 4-dienoyl-CoAs to 3-enoyl-CoAs, as well as in peroxisomal reactions that consume 2-oxoglutarate, namely the alpha-hydroxylation of phytanic acid. The cytoplasmic IDH1 serves a significant role in cytoplasmic NADPH production. Defects in IDH1 are involved in the development of glioma.

IDH1 Antibody - References

Geisbrecht BV and Gould SJ. The human PICD gene encodes a cytoplasmic and peroxisomal NADP(+)-dependent isocitrate dehydrogenase. J. Biol. Chem.1999; 274:30527-33.
Xu X, Zhao J, Xu Z, et al. Structures of human cytosolic NADP-dependent isocitrate dehydrogenase reveal a novel self-regulatory mechanism of activity. J. Biol. Chem.2004; 279:33946-57.
Dang L, White DW, and Gross S. Cancer-associated IDH1 mutations produce 2-hydroxyglutarate. Nature2009; 462:739-44.

Smeitink J. Metabolism, gliomas, and IDH1. N. Engl. J. Med.2010; 362:1144-5.