

**IDH1 Antibody**  
Catalog # ASC11154**Specification****IDH1 Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">O75874</a>
Other Accession	<a href="#">NP_005887</a> , <a href="#">28178825</a>
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°C for three months and -20°C, 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](http://www.uniprot.org/citations/10521434), PubMed: [19935646](http://www.uniprot.org/citations/19935646)). Plays a critical role in the generation of NADPH, an important cofactor in many biosynthesis pathways (PubMed: [10521434](http://www.uniprot.org/citations/10521434)). May act as a corneal epithelial crystallin and may be involved in maintaining corneal epithelial transparency (By similarity).

**Cellular Location**

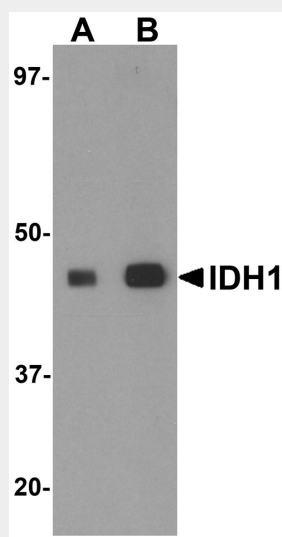
Cytoplasm, cytosol. Peroxisome

## 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 Cytometry](#)
- [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. *Nature*2009; 462:739-44.

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