

IDH1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5173

Product Information

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| Application | IHC-P, FC, IF, WB |
| Primary Accession | O75874 |
| Other Accession | P41562 , O88844 , Q9XSG3 |
| Reactivity | Human, Rat |
| Predicted | Mouse, Bovine |
| Host | Rabbit |
| Clonality | Polyclonal |
| Calculated MW | 46659 |
| Isotype | Rabbit IgG |
| Antigen Source | HUMAN |

Additional Information

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|---------------------------|---|
| Gene ID | 3417 |
| Antigen Region | 116-143 |
| Other Names | IDH1; PICD; Isocitrate dehydrogenase [NADP] cytoplasmic; Cytosolic NADP-isocitrate dehydrogenase; IDP; NADP(+)-specific ICDH; Oxalosuccinate decarboxylase |
| Dilution | IHC-P~~1:100 FC~~1:10~50 IF~~1:10~50 WB~~1:1000 |
| Target/Specificity | This IDH1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 116-143 amino acids from the Central region of human IDH1. |
| Format | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS. |
| Storage | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| Precautions | IDH1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures. |

Protein Information

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| Name | IDH1 |
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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

Background

IDH1 belongs to two distinct subclasses. The protein is the NADP(+)-dependent isocitrate dehydrogenase found in the cytoplasm and peroxisomes. This protein contains the PTS-1 peroxisomal targeting signal sequence. The presence of this enzyme in peroxisomes suggests roles 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 enzyme serves a significant role in cytoplasmic NADPH production.

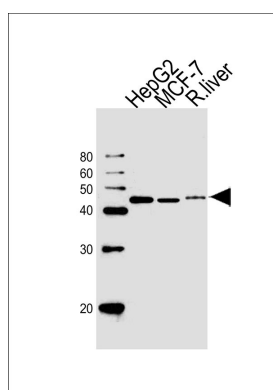
References

Geisbrecht B.V., Gould S.J.J. Biol. Chem. 274:30527-30533(1999)

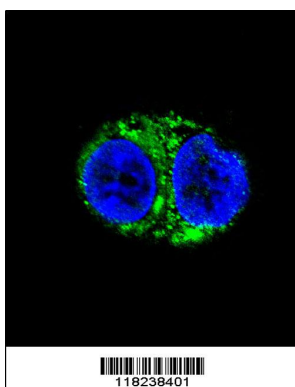
Xu X., Zhao J., Xu Z.J. Biol. Chem. 279:33946-33957(2004)

Bleeker F.E., Lamba S.Hum. Mutat. 30:7-11(2009)

Images

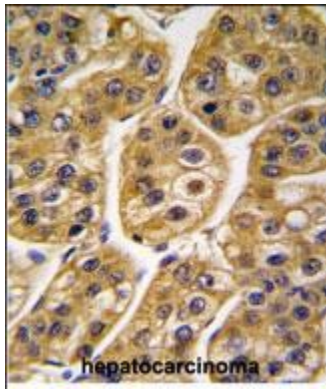


Western blot analysis of lysates from HepG2, MCF-7 cell line and rat liver tissue lysate (from left to right), using IDH1 Antibody (Center) (Cat. #AW5173). AW5173 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L (HRP) at 1:10000 dilution was used as the secondary antibody.

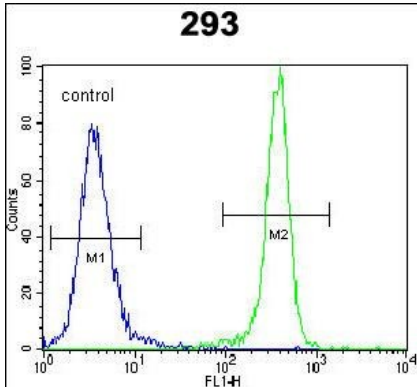


Confocal immunofluorescent analysis of IDH1 Antibody (Center) (Cat#AW5173) with HepG2 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). DAPI was used to stain the cell nuclear (blue).

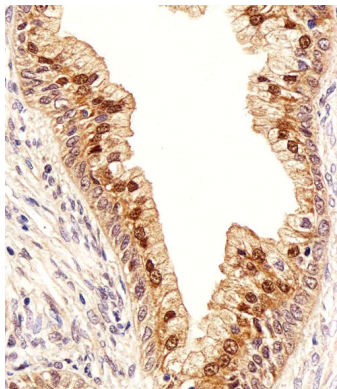
Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with IDH1 antibody



(Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



IDH1 Antibody (Center) (Cat. #AW5173) flow cytometric analysis of 293 cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Immunohistochemical analysis of paraffin-embedded H. prostate section using IDH1 Antibody (Center) (Cat#AW5173). AW5173 was diluted at 1:100 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.