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IDH1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7454c

Product Information

Application	WB, IF, IHC-P, FC, E
Primary Accession	O75874
Other Accession	P41562, O88844, Q9XSG3
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	46659
Antigen Region	116-143

Additional Information

Gene ID	3417
Other Names	Isocitrate dehydrogenase [NADP] cytoplasmic, IDH, Cytosolic NADP-isocitrate dehydrogenase, IDP, NADP(+)-specific ICDH, Oxalosuccinate decarboxylase, IDH1, PICD
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.
Dilution	WB~~1:1000 IF~~1:10~50 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
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

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

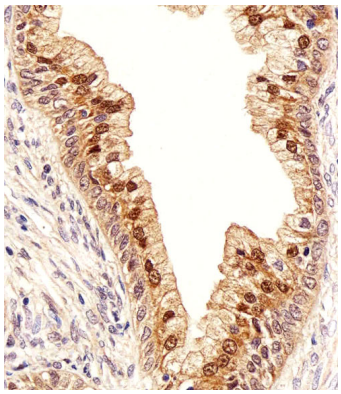
Background

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.

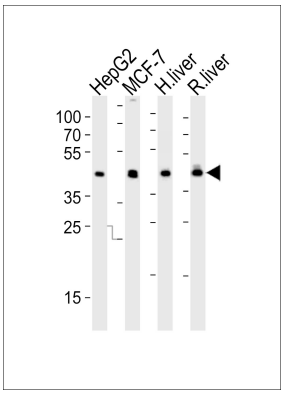
References

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

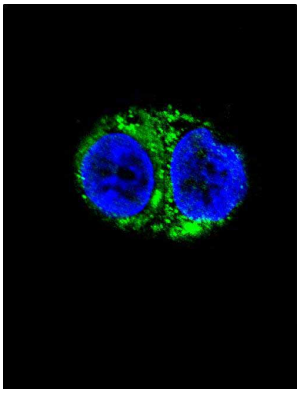


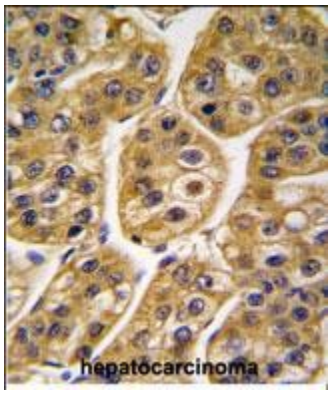
Immunohistochemical analysis of paraffin-embedded H. prostate section using IDH1 Antibody (Center)(Cat#AP7454c). AP7454c was diluted at 1:100 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



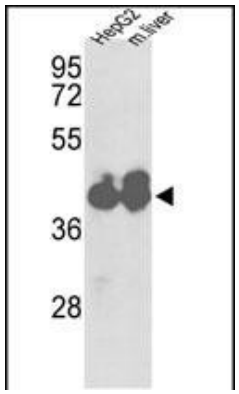
Western blot analysis of lysates from HepG2, MCF-7 cell line, human liver and rat liver tissue lysate(from left to right), using IDH1 Antibody (Center)(Cat. #AP7454c). AP7454c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysates at 35ug per lane.

Confocal immunofluorescent analysis of IDH1 Antibody (Center)(Cat#AP7454c) with HepG2 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).DAPI was used to stain the cell nuclear (blue).

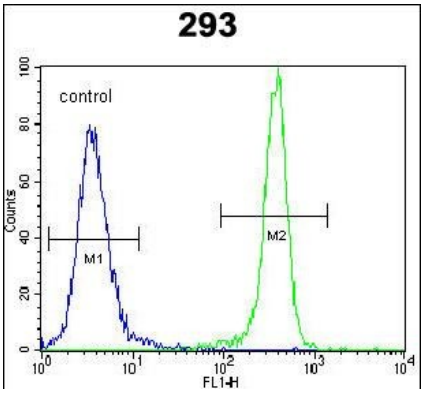




Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with IDH1 antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Western blot analysis of IDH1 Antibody (Center) (Cat.#AP7454c) in HepG2 cell line and mouse liver tissue lysates (35ug/lane). IDH1 (arrow) was detected using the purified Pab.



IDH1 Antibody (Center) (Cat. #AP7454c) 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.