IDH1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	IDH1, Polyclonal Antibody
Full Product Name	IDH1 Polyclonal Antibody
Product Gene Name	anti-IDH1 antibody
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	PBS with 0.02% sodium azide, 50% glycerol, pH 7.3.
Purity/Purification	Affinity Purification
Preparation and Storage	Store at -20 degree C. Avoid freeze/thaw cycles.
Molecular Weight	46kDa
OMIM	137800
3D Structure	ModBase 3D Structure for O75874
Immunogen	Recombinant protein of human IDH1 (NP_005887.2).
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-IDH1 antibody	Western Blot (WB), Immunoprecipitation (IP)
Application Notes for anti-IDH1 antibody	WB: 1:500-1:2000 IP: 1:50-1:100
Related Product Information for anti-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(+). Five isocitrate dehydrogenases have been reported: three NAD(+)-dependent isocitrate dehydrogenases, which localize to the mitochondrial matrix, and two NADP(+)-dependent isocitrate dehydrogenases, one of which is mitochondrial and the other predominantly cytosolic. Each NADP(+)-dependent isozyme is a homodimer. The protein encoded by this gene is the NADP(+)-dependent isocitrate dehydrogenase found in the cytoplasm and peroxisomes. It 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. Alternatively spliced transcript variants encoding the same protein have been found for this gene.
Other Notes	Small volumes of anti-IDH1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for IDH1 purchase	MBS8567987 is an antibody targeting IDH1. Also known as IDH1 Polyclonal Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for IDH1. It may not necessarily be applicable to this product.

NCBI GI #	119590846
NCBI GeneID	3417
NCBI Accession #	EAW70440.1
UniProt Primary Accession #	O75874
UniProt Related Accession #	O75874
NCBI Official Full Name	isocitrate dehydrogenase 1 (NADP+), soluble, isoform CRA_b
NCBI Official Synonym Full Names	isocitrate dehydrogenase (NADP(+)) 1
NCBI Official Symbol	IDH1
NCBI Official Synonym Symbols	IDH; IDP; IDCD; IDPC; PICD; HEL-216; HEL-S-26
UniProt Protein Name	Isocitrate dehydrogenase [NADP] cytoplasmic
UniProt Synonym Protein Names	Cytosolic NADP-isocitrate dehydrogenase; IDP; NADP(+)-specific ICDH; Oxalosuccinate decarboxylase
Protein Family	Isocitrate dehydrogenase
UniProt Gene Name	IDH1
UniProt Synonym Gene Names	PICD; IDH
UniProt Entry Name	IDHC_HUMAN
NCBI Protein Information	isocitrate dehydrogenase [NADP] cytoplasmic
UniProt Comments for IDH1	IDH1: an oxidoreductase that catalyzes the third step of the TCA cycle: the oxidative decarboxylation of isocitrate, consuming NADP(+), and producing alpha-ketoglutarate (alpha-KG) and CO2. Alpha-KG is an activator the dioxygenases that hydroxylate the transcription factor HIF and lead to its degradation by VHL. Since HIF turns on oncogenic pathways, IDH1 has apparent tumor suppressor activity. Homo-dimerization is required for activity. Each subunit binds 1 magnesium or manganese ion. IDH1 is located in the cytosol and peroxisomes. Somatic mutations affecting arginine 132 (R132) are found in 80% of grade II?III gliomas and secondary glioblastomas in humans, and cause disease in a tissue-specific fashion. Only a single copy of the gene has been found to be mutated in tumours. Mutations of R132 to H, C, S, G, V, or L have been reported to be neomorphic, abolishing the conversion of isocitrate to alpha-KG. Instead, alpha-KG is converted to R(-)-2-hydroxyglutarate (2HG). Elevated levels of 2HG correlate with an elevated risk of malignant brain tumors. Neomorphic mutations in IDH1 and IDH2 convert alpha-KG to 2-hydroxyglutarate (2-HG) occur in a high percentage of patients with cytogenetically normal acute myeloid leukemia (AML). Protein type: Other Amino Acids Metabolism - glutathione; Oxidoreductase; EC 1.1.1.42; Carbohydrate Metabolism - citrate (TCA) cycle Chromosomal Location of Human Ortholog: 2q33.3 Cellular Component: peroxisomal matrix; mitochondrion; cytoplasm; peroxisome; cytosol Molecular Function: protein homodimerization activity; magnesium ion binding; isocitrate dehydrogenase (NADP+) activity; NADP binding; NAD binding; receptor binding Biological Process: isocitrate metabolic process; NADPH regeneration; glyoxylate cycle; glutathione metabolic process; response to steroid hormone stimulus; tricarboxylic acid cycle; response to oxidative stress; cellular lipid metabolic process; female gonad development; 2-oxoglutarate metabolic process Disease: Glioma Susceptibility 1
Research Articles on IDH1	**1.** World Health Organization classification of brain tumors introduced isocitrate dehydrogenase genotype and epigenetic 1p/19q codeletion as two key molecular markers.

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