

Recombinant Human IDH1, His-tagged

Cat. No. IDH1-14047H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human IDH1 protein, fused to His-tag, was expressed in E.coli and purified by Ni-sepharose.
Species	Human
Source	E.coli
ProteinLength	C-term-74a.a.
Description	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.

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Storage	The protein is stored in PBS buffer at -20°C. Avoid repeated freezing and thawing cycles.
Storage Buffer	1M PBS (58mM Na ₂ HPO ₄ , 17mM NaH ₂ PO ₄ , 68mM NaCl, pH8.) added with 300mM Imidazole and 0.7% Sarcosyl, 15% glycerol.
GENE INFORMATION	
Gene Name	IDH1 isocitrate dehydrogenase 1 (NADP+), soluble [Homo sapiens]
Official Symbol	IDH1
Synonyms	IDH1; isocitrate dehydrogenase 1 (NADP+), soluble; isocitrate dehydrogenase [NADP] cytoplasmic; NADP(+)-specific ICDH; oxalosuccinate decarboxylase; NADP-dependent isocitrate dehydrogenase, cytosolic; NADP-dependent isocitrate dehydrogenase, peroxisomal; IDH; IDP; IDCD; IDPC; PICD;
Gene ID	3417
mRNA Refseq	NM_005896
Protein Refseq	NP_005887
MIM	147700
UniProt ID	O75874
Chromosome Location	2q32-qter
Pathway	Citrate cycle (TCA cycle), organism-specific biosystem; Citrate cycle (TCA cycle),

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conserved biosystem; Citrate cycle, first carbon oxidation, oxaloacetate => 2-oxoglutarate, organism-specific biosystem; Citrate cycle, first carbon oxidation, oxaloacetate => 2-oxoglutarate, conserved biosystem; Glutathione metabolism, organism-specific biosystem;

Function

NAD binding; isocitrate dehydrogenase (NADP+) activity; isocitrate dehydrogenase (NADP+) activity; magnesium ion binding; oxidoreductase activity; oxidoreductase activity, acting on the CH-OH group of donors, NAD or NADP as acceptor; protein homodimerizat

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