Recombinant Human IDH1 Protein, His-tagged

Cat. No. IDH1-029H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant C-terminal His-tagged human IDH1 protein was expressed in E. coli.
Species	Human
Source	E.coli
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. Alternatively spliced transcript variants encoding the same protein have been found for this gene.
Molecular Mass	47.9 kDa
Purity	≥90% as determined by SDS-PAGE

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Unit Definition	One unit is defined as the amount of enzyme required to convert 1 μmol of NADP+ to NADPH, using 1.5 mM isocitrate as a substrate, per minute at room temperature in 25 mM Tris-HCl, pH 7.5, 150 mM sodium chloride, and 5 mM MgCl2.
Stability	≥ 6 months
Storage	At -80 centigrade.
Storage Buffer	50 mM Tris-HCl, pH 7.5, containing 200 mM sodium chloride, 5 mM β-mercaptoethanol, 50 mM calcium chloride, and 20% glycerol

GENE INFORMATION

Gene Name	IDH1 isocitrate dehydrogenase (NADP(+)) 1 [Homo sapiens (human)]
Official Symbol	IDH1
Synonyms	IDH1; isocitrate dehydrogenase (NADP(+)) 1; IDH; IDP; IDCD; IDPC; PICD; HEL-216; HEL-S-26; isocitrate dehydrogenase [NADP] cytoplasmic; NADP(+)-specific ICDH; NADP-dependent isocitrate dehydrogenase, cytosolic; NADP-dependent isocitrate dehydrogenase, peroxisomal; epididymis luminal protein 216; epididymis secretory protein Li 26; epididymis secretory sperm binding protein; isocitrate dehydrogenase (NADP(+)) 1, cytosolic; isocitrate dehydrogenase 1 (NADP+), soluble; oxalosuccinate decarboxylase; EC 1.1.1.42
Gene ID	3417
mRNA Refseq	NM_005896
Protein Refseq	NP_005887

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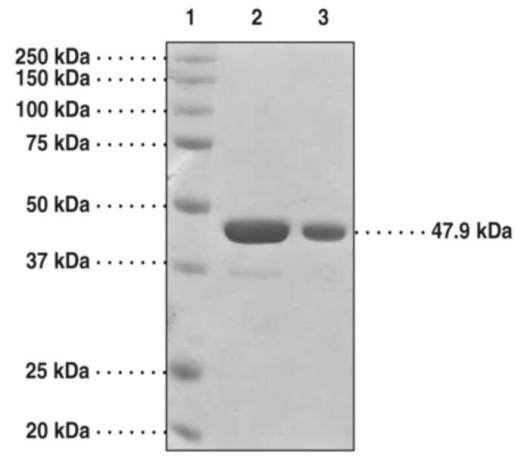
MIM	147700
UniProt ID	O75874
SDS-PAGE analysis of IDH1 R132H	 Lane 1: MW Markers Lane 2: IDH1 (5 µg) Lane 3: IDH1 (2.5 µg)

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