

Product datasheet for **TP310582**

Isocitrate dehydrogenase (IDH1) (NM_005896) Human Recombinant Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Recombinant protein of human isocitrate dehydrogenase 1 (NADP+), soluble (IDH1), 20 µg
Species:	Human
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>RC210582 representing NM_005896 Red =Cloning site Green =Tags(s)

MSKKISGGSVEMQGDDEMTRIIWELIKEKLIFPYVELDLHSYDLGIENRDATNDQVTKDAAEAIKKHNVG
VKCATITPDEKRVEEFKQMWKSPNGTIRNILGGTVFREAICKNIPRLVSGWVKPIIIGRHAYGDQYR
ATDFVVPGPVKVEITYTPSDGTQKVTYLVHNFEEGGVAMGMYNQDKSIEDFAHSSFQMAKSGWPLYL
S
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VAQGYGSLGMMTSVLVCPDGKTVEAESAHGTVTRHYRMYQKGQETSTNPIASIFAWTRGLAHRAKLDNN
K
ELAFFANALEEVSITIEAGFMTKDLAACIKGLPNVQRSDYLNTFEFMDKLGKLNKIKLAQAKL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

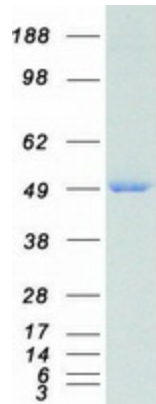
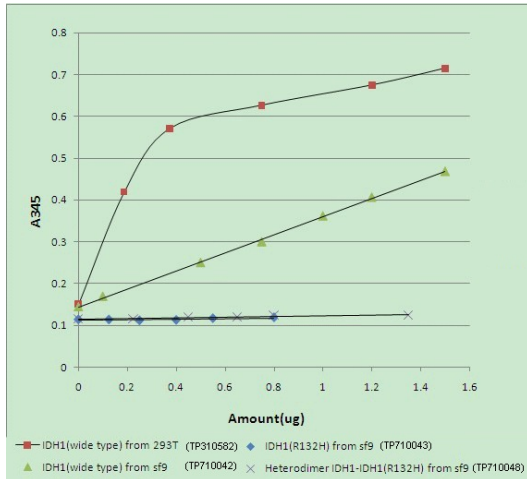
Tag:	C-Myc/DDK
Predicted MW:	46.5 kDa
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol
Bioactivity:	Enzymatic activities were determined by monitoring NADPH formation based on the absorbance at 345nm. The reaction was carried out at 37° for 10 minutes in the presence of isocitrate as a substrate and NADP as a cofactor. The data which presented a good linear relation on the curve was used to calculate the specific activity, and one unit is defined as converting 1.0 umole of NADP to NADPH per min at 37°. In summary, the wildtype IDH1 produced from HEK293 cells and insect cells are active while the R132H mutant or the WT/R132H heterodimers are inactive.



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Preparation:	Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.
Note:	For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.
Storage:	Store at -80°C.
Stability:	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
RefSeq:	NP_005887
Locus ID:	3417
UniProt ID:	O75874
RefSeq Size:	2339
Cytogenetics:	2q34
RefSeq ORF:	1242
Synonyms:	HEL-216; HEL-S-26; IDCD; IDH; IDP; IDPC; PICD
Summary:	<p>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. [provided by RefSeq, Sep 2013]</p>
Protein Pathways:	Citrate cycle (TCA cycle), Glutathione metabolism, Metabolic pathways

Product images:



Coomassie blue staining of purified IDH1 protein (Cat# TP310582). The protein was produced from HEK293T cells transfected with IDH1 cDNA clone (Cat# [RC210582]) using MegaTran 2.0 (Cat# [TT210002]).