

## Product datasheet for **TP710042**

### 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), with C-terminal polyhistidine tag, expressed in sf9 cells.
Species:	Human
Expression Host:	Sf9
Expression cDNA Clone or AA Sequence:	A DNA sequence from TrueORF clone, RC210582, encoding human full-length IDH1
Tag:	C-His
Predicted MW:	47 kDa
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	50 mM Tris-HCl, pH 8.0, 150 mM NaCl, 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.
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:	<a href="#">NP_005887</a>
Locus ID:	3417
UniProt ID:	<a href="#">O75874</a> , <a href="#">A0A024R3Y6</a>
RefSeq Size:	2339



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Cytogenetics: 2q34

RefSeq ORF: 1242

Synonyms: HEL-216; HEL-S-26; IDCD; IDH; IDP; IDPC; PICD

**Summary:** 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]

**Protein Pathways:** Citrate cycle (TCA cycle), Glutathione metabolism, Metabolic pathways

### Product images:



