

## Product datasheet for **TP710043**

### Isocitrate dehydrogenase (IDH1) (NM\_005896) Human Recombinant Protein

#### Product data:

Product Type:	Recombinant Proteins
Description:	Recombinant protein of mutant(R132H) of human isocitrate dehydrogenase 1 (NADP+), soluble (IDH1),with C-terminal DDK tag,expressed in sf9 cells.
Species:	Human
Expression Host:	Sf9
Expression cDNA Clone or AA Sequence:	A DNA sequence from TrueORF clone, RC400096, encoding human full-length Mutant IDH1(R132H)
Tag:	C-DDK
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: 1245

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:



