

Catalog No: 31610, 31710

Expressed In: *E. coli*

Quantity: 100, 1000 µg

Concentration: 0.8 µg/µl

Source: Human

Buffer Contents: Recombinant IDH1 protein is supplied at a concentration of 0.8 µg/µl in 25 mM Tris pH 8.0, 300 mM NaCl, 5% glycerol.

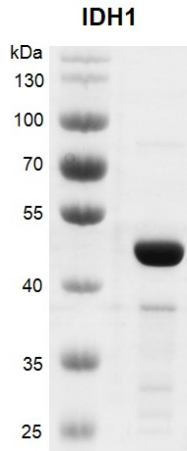
Background: IDH1 (Isocitrate Dehydrogenase (NADP(+)) 1, Cytosolic, also known as HEL-216, HEL-S-26, IDCD, IDH, IDP, IDPC, PICD) is a member of isocitrate dehydrogenases, which catalyze the oxidative decarboxylation of isocitrate to 2-oxoglutarate. Isocitrate dehydrogenases belong to two distinct subclasses, 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.

IDH 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.

Protein Details: Recombinant IDH1 protein was expressed in *E. coli* cells as the full length protein (accession number AAH93020.1) with a C-terminal 6×His tag. The molecular weight of the protein is 47.7 kDa.

Application Notes: This protein is useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

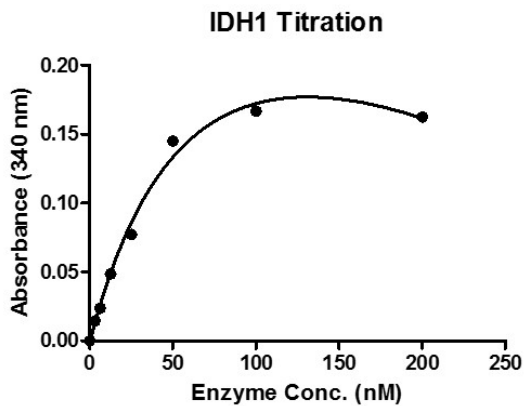


Recombinant IDH1 protein, SDS-PAGE gel.

Recombinant IDH1 protein was run on a 10% SDS-PAGE gel and stained with Coomassie Blue.

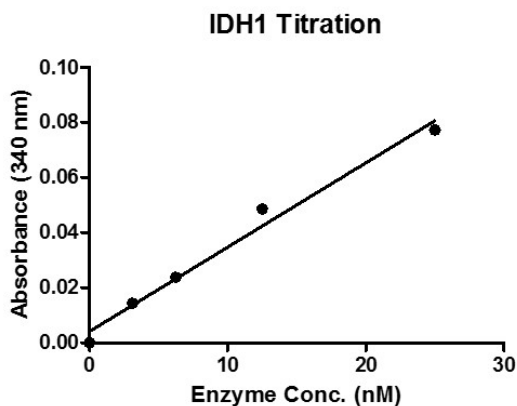
MW: 47.7 kDa

Purity: > 90%



Recombinant IDH1 protein activity assay.

200 μ M DL-isocitric acid trisodium and 200 μ M NADP⁺ were incubated with IDH1 protein in reaction buffer including 50 mM Tris-HCl pH 7.4, 100 mM MgCl₂ for 10 minutes at room temperature. The generation of product NADPH was monitored by measuring absorbance at 340 nm.



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