

IDH1 recombinant protein

Recombinant IDH1 (R132C) protein

CATALOG #
AAA59783

HOST
E Coli

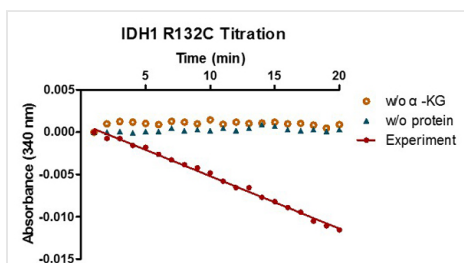
PRODUCT SYNONYMS

IDH1; Recombinant IDH1 (R132C) protein; Isocitrate Dehydrogenase (NADP(+)) 1; Cytosolic; Oxalosuccinate Decarboxylase; NADP(+)-Specific ICDH; IDH1 recombinant protein

PRODUCT SPECIFICATIONS

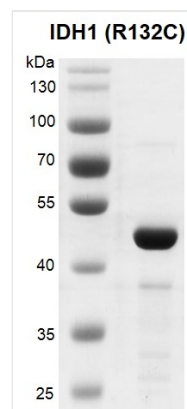
Host	E Coli
Form/Format	Recombinant IDH1 (R132C) protein is supplied at a concentration of 0.8ug/ul in 25mM Tris pH8.0, 300mM NaCl, 5% glycerol.
Protein Species	Human
Tag	His-Tag
Notes	This protein is useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling. Activity Assay Conditions: 10uM NADPH and 1uM a-KG were incubated with 100nm IDH1 (R132C) protein in 200ul reaction system containing 50mM Tris-HCl pH 7.4, 150mM NaCl, 10mM MgCl2 and 0.03% BSA. All the operations and reactions were performed at room temperature. Depletion of NADPH was monitored continuously at Abs 340nm for 20 min.
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Preparation and Storage	Recombinant proteins in solution are temperature sensitive and must be stored at -80 degree C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. Shipping Temp: Dry Ice

IMAGES



Application Data

Recombinant IDH1 (R131C) protein activity assay 10 uM NADPH and 1 uM a-KG were incubated with 100 nM IDH1 (R132C) protein in 200 ul reaction system containing 50 mM Tris-HCl pH 7.4, 150 mM NaCl, 10 mM MgCl2 and 0.03% BSA (room temperature). Depletion of NADPH was monitored continuously at Abs 340 nm for 20 min.



SDS-PAGE

Recombinant IDH1 (R132C) protein gel 10% SDS-PAGE Coomassie staining MW: 47.7 kDa
Purity: > 90%

ADDITIONAL INFORMATION

Related Product Information for IDH1 recombinant protein	Short Description: Recombinant IDH1 (R132C) protein was expressed in E Coli as the full-length protein (accession number AAH93020.1) with a point mutation Arg132Cys and a C-terminal 6xHis-tag. The molecular weight of the protein is 47.7 kDa. It is suitable for peroxisome and NADPH regulation assays, as well as for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling. 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. IDH1 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. Mutations in human cytosolic isocitrate dehydrogenase I (IDH1) occur somatically in >70% of grade II-III gliomas and secondary glioblastomas, and in 8.5% of acute myeloid leukemias (AML). Mutations have also been reported in cancers of the colon and prostate. To date, mutations in at least four active site arginine residues IDH1 R100, IDH1 R132, IDH2 R140, and IDH2 R172 have been shown to result in the neomorphic production of R(-)-2-hydroxyglutarate (2HG), although these mutants lack the wild-type enzyme's ability to convert isocitrate to a-ketoglutarate (a-KG, 2OG). Among of them, IDH1 R100A is affected in adult glioma.
Product Categories/Family for IDH1 recombinant protein	Recombinant Proteins

NCBI AND UNIPROT INFORMATION

Molecular Weight	Molecular weight of the protein is 47.7kDa
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For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/idh1-recombinant-protein-e-coli/59783>