CREATIVE BIOMART®
Immune Checkpoints

Recombinant Human IDH1 (R132H) Protein, His-tagged

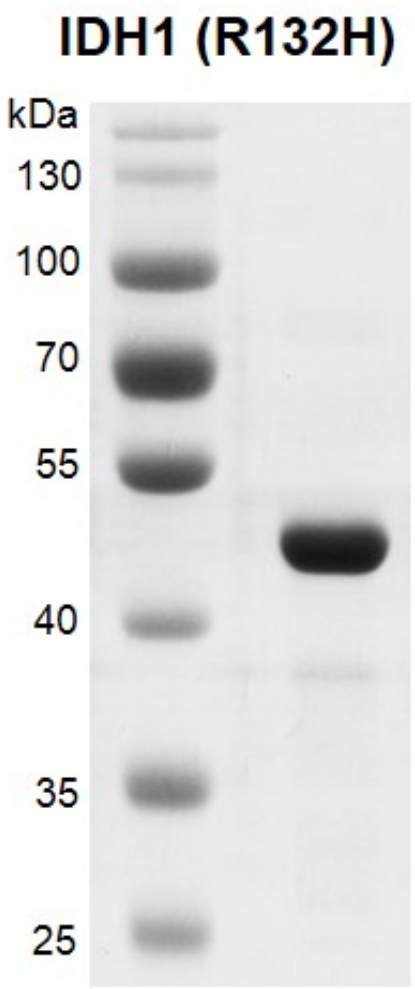
Product Information

Cat	*IMP-6606*
Official Symbol	*IDH1*
Product Overview	*Recombinant IDH1 (R132H) protein was expressed in E. coli cells as the full length protein (accession number AAH93020.1) with a point mutation Arg132His and a C-terminal 6xHis Tag. The molecular weight of the protein is 47.7 kDa.*
Description	*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.*
Expression System	*E. coli*
Species	*Human*
Tag	*His*
Form	*Recombinant IDH1 (R132H) protein is supplied in 25 mM Tris pH 8.0, 300 mM NaCl,and 5% glycerol.*
Molecular Mass	*47.7 kDa*
Purity	*>90%*
Applications	*Enzyme kinetics, screening inhibitors, and selectivity profiling*
Storage	*Recombinant proteins in solution are temperature sensitive and must be stored at -80 centigrade to prevent degradation. Avoid repeated*

45-1 Ramsey Road, Shirley, NY 11967, USA
Tel: 1-631-559-9269 1-516-512-3133 E-mail: info@creative-biomart.com

freeze/thaw cycles and keep on ice when not in storage.

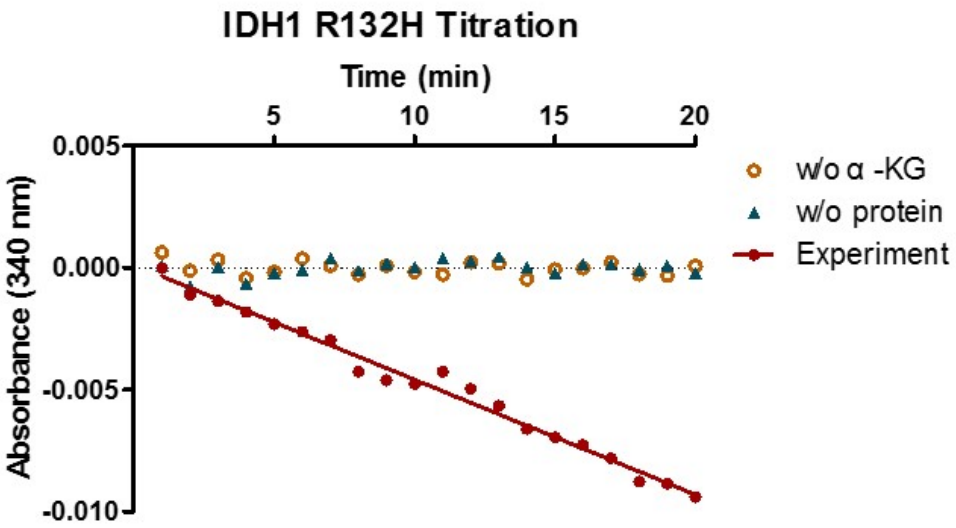
SDS-PAGE



Recombinant IDH1 (R132H) protein10% SDS-PAGE Coomassie staining MW: 47.7 kDa Purity: >90%

Bioactivity-ELISA 1

45-1 Ramsey Road, Shirley, NY 11967, USA
Tel: 1-631-559-9269 1-516-512-3133 E-mail: info@creative-biomart.com



Recombinant IDH1 (R132H) protein activity assay 10 μM NADPH and 1 μM a-KG were incubated with 100 nM IDH1 (R132H) protein in 200 μL 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 45 min.

45-1 Ramsey Road, Shirley, NY 11967, USA
Tel: 1-631-559-9269 1-516-512-3133 E-mail: info@creative-biomart.com