Recombinant human Isocitrate Dehydrogenase 1/IDH1 protein

Catalog Number: ATGP1284

PRODUCT INFORMATION

Expression system
E.coli

Domain
1-414aa

UniProt No.
O75874

NCBI Accession No.
NP_005887.2

Alternative Names
Isocitrate dehydrogenase [NADP] cytoplasmic, IDCD, IDH, IDP, IDPC, PICD

PRODUCT SPECIFICATION

Molecular Weight
48.8 kDa (434aa) confirmed by MALDI-TOF

Concentration
1mg/ml (determined by Bradford assay)

Formulation
Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 20% glycerol, 0.1M NaCl,1mM DTT,0.1mM PMSF

Purity
> 95% by SDS-PAGE

Biological Activity
Specific activity is > 18,000pmol/min/ug. One unit will oxidize 1.0pmole of DL-Isocitrate to D alpha-Ketoglutarate per minute in the presence of beta-NADP at pH7.4 at 37C.

Tag
His-Tag

Application
SDS-PAGE, Enzyme Activity

Storage Condition
Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description
IDH1, also known as isocitrate dehydrogenase (IDHC) cytoplasmic enzyme, belongs to the isocitrate and isopropylmalate dehydrogenases family. This protein catalyzes the third step of the citric acid cycle, which involves the oxidative decarboxylation of isocitrate, forming alpha-ketoglutarate and CO2 in a two step reaction.

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The first step involves the oxidation of isocitrate to the intermediate oxalosuccinate, while the second step involves the production of alpha-ketoglutarate. Recombinant human IDH1 protein, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional chromatography.

Amino acid Sequence

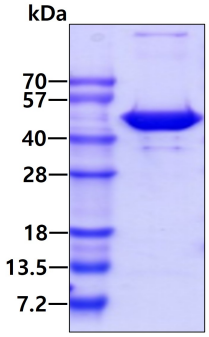
<MGSSHHHHHH SSGLVPRGSH> MSKKISGGSV VEMQGDEMTR IIWELIKEKL IFPYVELDLH SYDLGIENRD ATNDQVTKDA AEAIKKHNVG VKCATITPDE KRVEEFKLKQ MWKSPNGTIR NILGGTVFRE AIICKNIPRL VSGWVKPIII GRHAYGDQYR ATDFVVPGPG KVEITYTPSD GTQKVTYLVH NFEEGGGVAM GMYNQDKSIE DFAHSSFQMA LSKGWPLYLS TKNTILKKYD GRFKDIFQEI YDKQYKSQFE AQKIWYEHRL IDDMVAQAMK SEGGFIWACK NYDGDVQSDS VAQGYGSLGM MTSVLVCPDG KTVEAEAAHG TVTRHYRMYQ KGQETSTNPI ASIFAWTRGL AHRAKLDNNK ELAFFANALE EVSIETIEAG FMTKDLAACI KGLPNVQRSD YLNTFEFMDK LGENLKIKLA QAKL

General References

Thorsness P.E. et al. (1987) J. Biol. Chem. 262: 10422-10425.
Geisbrecht B.V. et al. (1999) J. Biol. Chem. 274: 30527-30533.

DATA

SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.