

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

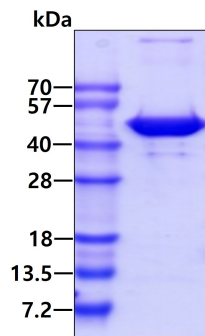
<MGSSHHHHHH SSGLVPRGSH> MSKKISGGSV VEMQGD EMT R I IWELIKEKL IFPYVELDLH SYDLGIENRD
ATNDQVTKDA AEAIKKHNVG VKCATITPDE KRVEEFKLKQ MWKSPNGTIR NILGGTVFRE AIICKNIPRL VSGWVKPIII
GRHAYGDQYR ATDFVVP GPG KVEITYTPSD GTQKVTYLVH NFEEGGGVAM GMYNQDKSIE DFAHSSFQMA LSKGWPLYLS
TKNTILKKYD GRFKDIFQEI YDKQYKSQFE AQKIWEHRL 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



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