

AR50109PU-N

Human Isocitrate dehydrogenase / IDH (1-414, His-tag) - Purified

Alternate names:

Cytosolic NADP-isocitrate dehydrogenase, ICDH, IDP, NADP(+)-specific ICDH, Oxalosuccinate decarboxylase, PICD, cytoplasmic Isocitrate dehydrogenase [NADP]

Quantity:

0.5 mg

Concentration:

1.0 mg/ml (determined by Bradford assay)

Background:

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. The first step involves the oxidation of isocitrate to the intermediate oxalosuccinate, while the second step involves the production of alpha-ketoglutarate.

Uniprot ID:

[O75874](#)

NCBI:

[NP_005887](#)

GenelD:

[3417](#)

Species:

Human

Source:

E. coli

Format:

State: Liquid purified protein

Purity: >95% by SDS - PAGE

Buffer System: 20 mM Tris-HCl buffer (pH8.0) containing 20% glycerol, 0.1M NaCl, 1mM DTT, 0.1mM PMSF

Description:

Recombinant human IDH1 protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography.

AA Sequence:

MGSSHHHHH SSGLVPRGSH MSKKISGGSV VEMQGDENR IIWELIKEKL IFPYVELDLH
SYDLGIENRD ATNDQVTKDA AEAIKKHNVG VKCATITPDE KRVEEFKLKQ MWKSPNGTIR
NILGGTVFRE AIICKNIPRL VSGWVKPIII GRHAYGDQYR ATDFVVPDGP KVEITYTPSD
GTQKVITYLVH NFEEGGGVAM GMYNQDKSIE DFAHSSFQMA LSKGWPLYLS TKNTILKKYD
GRFKDIFQEI YDKQYKSQFE AQKIWEHRL IDDMVAQAMK SEGGEIWKACK NYDGDVQSDS
VAQGYGSLGM MTSVLVCPDG KTVEAEAAHG TVTRHYRMYQ KGQETSTNPI ASIFAWTRGL
AHRAKLDNNK ELAFAFANALE EVSIETIEAG FMTKDLAACI KGLPNVQRSD YLNTFEFMDK
LGENLKI KLA QAKL

Specific Activity: > 0.7 units/ml. One unit will convert 1.0 umole of isocitrate to alpha-ketoglutarate per minute at pH7.5 at 25C.

Molecular weight: 48.8 kDa (434aa), confirmed by MALDI-TOF

Storage:

Store undiluted at 2-8°C for one week or (in aliquots) at -20°C to -80°C for longer.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

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

Protocols:

1. Prepare 1450ul assay buffer. The final concentrations are 67 mM glycylglycine, 0.44 mM DL-isocitric acid, 1.0 mM beta- NADP, 0.6 mM manganese chloride.
2. Add 50ul of recombinant protein IDH1 with 1 ug, 2 ug, and 5 ug in assay buffer.
3. Mix by inversion and load 200 ul of reaction mix in to a plate well. chloride.
4. Record the increase in A340 nm for 5 minutes at 25C.

Pictures:

