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**Product Data Sheet**


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Product Name: IDH1 Human  
 Cat. No.: GP21819  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	E.coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Isocitrate dehydrogenase [NADP] cytoplasmic; EC 1.1.1.42; Cytosolic NADP-isocitrate dehydrogenase; Oxalosuccinate decarboxylase; IDH; NADP(+)-specific ICDH; IDP; PICD.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH MSKKISGGSV VEMQGDEMTR IIWELIKEKL IFPYVELDLH SYDLGIENRD ATNDQVTKDA AEAIKKHNVG VKCATITPDE KRVEEFKLLKQ MWKSPNGTIR NILGGTVFRE AIICKNIPRL VSGWVKPIII GRHAYGDQYR ATDFVVPGGP KVEITYTPSD GTQKVTYLVH NFEEGGGVAM GMYNQDKSIE DFAHSSFQMA LSKGWPLYLS TKNTILKKYD GRFKDIFQEI YDKQYKSQFE AQKIWEHRL IDDMVAQAMK SEGGLIWACK NYDGDVQSDS VAQGYGSLGM MTSVLVCPDG KTVEAEAAHG TVTRHYRMYQ KGQETSTNPI ASIFAWTRGL AHRAKLDNNK ELAFFANALE EVSIETIEAG FMTKDLAACI KGLPNVQRSD YLNTFEFMDK LGENLKIKLA QAKL		
Formulation	The IDH1 solution (1mg/ml) contains 20mM Tris-HCl buffer (pH 8.0), 0.1M NaCl, 1mM DTT, 0.1mM PMSF and 20% glycerol.		

**Introduction**

Isocitrate Dehydrogenase is an enzyme of the oxidoreductase class that catalyzes the conversion of isocitrate and NAD<sup>+</sup> to yield 2-ketoglutarate, carbon dioxide, and NADH. It occurs in cell mitochondria. The enzyme requires Mg<sup>2+</sup>, Mn<sup>2+</sup>; it is activated by ADP, citrate, and Ca<sup>2+</sup>, and inhibited by NADH, NADPH, and ATP. The reaction is the key rate-limiting step of the citric acid (tricarboxylic) cycle.

**Biological Activity**

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

**Caution: Product has not been fully validated for medical applications. For research use only.**

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### Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Background

IDH1 Human Recombinant produced in E.coli is a single, non-glycosylated polypeptide chain containing 434 amino acids (1-414) and having a molecular mass of 48.8 kDa. IDH1 is fused to a 20 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.

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