# Recombinant Human IDH1, His-tagged

**Cat. No.** IDH1-14047H **Lot. No.** (See product label)

## SPECIFICATION

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| **Product Overview** | Recombinant Human IDH1 protein, fused to His-tag, was expressed in E.coli and purified by Ni-sepharose. |
| **Species** | Human |
| **Source** | E.coli |
| **ProteinLength** | C-term-74a.a. |
| **Description** | Isocitrate dehydrogenases catalyze the oxidative decarboxylation of isocitrate to 2-oxoglutarate. These enzymes belong to two distinct subclasses, one of which utilizes NAD(+) as the electron acceptor and the other NADP(+). Five isocitrate dehydrogenases have been reported: three NAD(+)-dependent isocitrate dehydrogenases, which localize to the mitochondrial matrix, and two NADP(+)-dependent isocitrate dehydrogenases, one of which is mitochondrial and the other predominantly cytosolic. Each NADP(+)-dependent isozyme is a homodimer. The protein encoded by this gene 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. |

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| **Storage** | The protein is stored in PBS buffer at -20℃. Avoid repeated freezing and thawing cycles. |
| **Storage Buffer** | 1M PBS (58mM Na2HPO4,17mM NaH2PO4, 68mM NaCl, pH8. ) added with 300mM Imidazole and 0.7% Sarcosyl, 15%glycerol. |

## GENE INFORMATION

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| **Gene Name** | IDH1 isocitrate dehydrogenase 1 (NADP+), soluble [ Homo sapiens ] |
| **Official Symbol** | IDH1 |
| **Synonyms** | IDH1; isocitrate dehydrogenase 1 (NADP+), soluble; isocitrate dehydrogenase [NADP] cytoplasmic; NADP(+)-specific ICDH; oxalosuccinate decarboxylase; NADP-dependent isocitrate dehydrogenase, cytosolic; NADP-dependent isocitrate dehydrogenase, peroxisomal; IDH; IDP; IDCD; IDPC; PICD; |
| **Gene ID** | 3417 |
| **mRNA Refseq** | NM_005896 |
| **Protein Refseq** | NP_005887 |
| **MIM** | 147700 |
| **UniProt ID** | O75874 |
| **Chromosome Location** | 2q32-qter |
| **Pathway** | Citrate cycle (TCA cycle), organism-specific biosystem; Citrate cycle (TCA cycle), |

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| | conserved biosystem; Citrate cycle, first carbon oxidation, oxaloacetate => 2-oxoglutarate, organism-specific biosystem; Citrate cycle, first carbon oxidation, oxaloacetate => 2-oxoglutarate, conserved biosystem; Glutathione metabolism, organism-specific biosystem; |
| **Function** | NAD binding; isocitrate dehydrogenase (NADP+) activity; isocitrate dehydrogenase (NADP+) activity; magnesium ion binding; oxidoreductase activity; oxidoreductase activity, acting on the CH-OH group of donors, NAD or NADP as acceptor; protein homodimerizat |

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