

PRODUCT INFORMATION



IDHI (human recombinant)

Item No. 14131

Overview and Properties

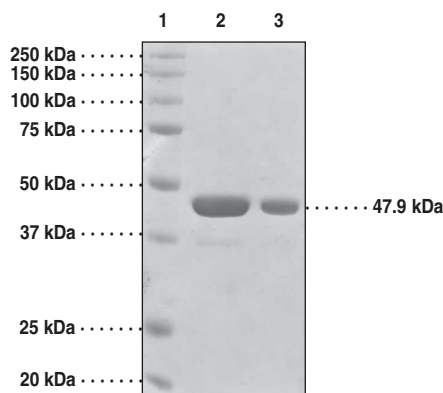
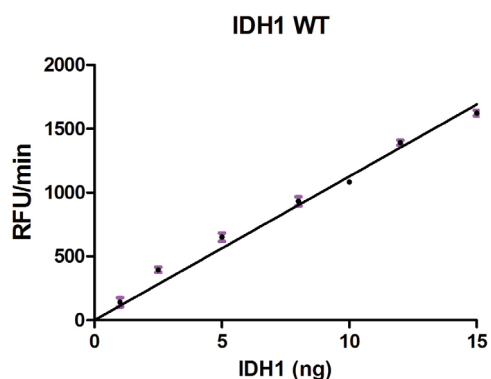
Synonyms: Isocitrate Dehydrogenase (NADP) Cytoplasmic
Source: Recombinant C-terminal histidine-tagged protein expressed in *E. coli*
Uniprot No.: O75874
Molecular Weight: 47.9 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥90% (estimated by SDS-PAGE)
Supplied in: 50 mM Tris-HCl, pH 7.5, containing 200 mM sodium chloride, 5 mM β-mercaptoethanol, 50 mM calcium chloride, and 20% glycerol

Protein

Concentration: *batch specific* mg/ml
Activity: *batch specific* U/ml
Specific Activity: *batch specific* U/mg
Unit Definition: One unit is defined as the amount of enzyme required to convert 1 μmol of NADP⁺ to NADPH, using 1.5 mM isocitrate as a substrate, per minute at room temperature in 25 mM Tris-HCl, pH 7.5, 150 mM sodium chloride, and 5 mM MgCl₂.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: IDH1 (5 μg)
Lane 3: IDH1 (2.5 μg)

Representative gel image shown; actual purity may vary between each batch.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Isocitrate dehydrogenases (IDHs) are nicotinamide adenine dinucleotide (NAD⁺) and NAD phosphate (NADP⁺)-dependent enzymes that catalyze the third step of the tricarboxylic acid cycle. IDHs catalyze oxidative decarboxylation of isocitrate producing α -ketoglutarate and carbon dioxide. IDH1 (cytosolic) and IDH2 (mitochondrial) are NADP⁺-dependent enzymes that catalyze reversible reactions. The IDH3 isoform, a NAD⁺-dependent multisubunit enzyme, is irreversible and allosterically regulated by a variety of positive (calcium, ADP, and citrate) and negative (adenosine triphosphate, NADH, and NADPH) effectors.¹ IDH1 and IDH2 are mutated in >70% of lower grade gliomas.²

References

1. Raimundo, N., Baysal, B.E., and Shadel, G.S. Revisiting the TCA cycle: Signaling to tumor formation. *Trends Mol. Med.* **17(11)**, 641-649 (2011).
2. Turcan, S., Rohle, D., Goenka, A., *et al.* IDH1 mutation is sufficient to establish the glioma hypermethylator phenotype. *Nature* **483(7390)**, 479-483 (2012).

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