

Recombinant Human MDH1, His-tagged

Cat. No. MDH1-2755H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human MDH1 protein, fused to His-tag at C-terminus, was expressed in E.coli and purified by using conventional chromatography.
Species	Human
Source	E.coli
Description	MDH1 is one of the two malate dehydrogenases. Malate dehydrogenase catalyzes the reversible oxidation of malate to oxaloacetate, utilizing the NAD/NADH cofactor system in the citric acid cycle. In particular, MDH1 is localized to the cytoplasm and may play pivotal roles in the malate-aspartate shuttle that operates in the metabolic coordination between cytosol and mitochondria. This protein also regulates p53-dependent cell-cycle arrest and apoptosis in response to glucose deprivation.
Sequences	MSEPIRVLVT GAAGQIAYSL LYSIGNGSVF GKDQPIILVL LDITPMMGVL DGVLMELQDC ALPLLKDVIATDKEDVAFKD LDVAILVGSM PRREGMERKD LLKANVKIFK SQGAALDKYA KKS VKVIVVG NPANTNCLTA SKSAPSIPKE NFSC LTRL DH NRAKAQIALK LGVTANDVKN VIIWGNHSST QYPDVNHAKV KLQGKEVG VY EALKDDSWLK GEFVTTVQQR GAAVIKARKL SSAMSAAKAI CDHVRDIWFG TPEGEFVSMG VISDGNSYGV PDDL LYSFPV VIKNKTWK FV EGLPINDFSR EKMDLTAKEL TEEKESAFEF LSSALEHHHH HH.
Form	Liquid. In 20 mM Tris-HCl Buffer (pH 8.0) containing 10% Glycerol.
Molecular Weight	37.4 kDa(342aa), confirmed by MALDI-TOF.

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Purity	> 95% by SDS – PAGE.
Concentration	1 mg/ml (determined by Bradford assay).
Biological Activity	Specific activity is > 8 units/mg, and is defined as the amount of enzyme that cleaves 1umole of oxalacetate and beta-NADH to L-malate and beta-NAD per minute at pH7.5 at 25°C.
Activity Assay	1. Prepare assay buffer into a suitable container and pre-chill on ice before use: The final concentrations are 100 mM Potassium phosphate, 0.13mM beta-nicotinamide adenine dinucleotide, reduced form, 0.25mM oxalacetic acid. 2. Add recombinant MDH protein with various concentrations (0.1ug, 0.5ug, 1ug) in assay buffer.3. Mix by inversion, equilibrate to 1C, and monitor at A340nm until the value is constant using a spectrophotometer. 4. Record the increase at A340nm for approximately 2 minutes
Storage	Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

GENE INFORMATION

Gene Name	MDH1 malate dehydrogenase 1, NAD (soluble) [Homo sapiens]
Synonyms	MDH1; malate dehydrogenase 1, NAD (soluble); OTTHUMP00000202070; cytosolic malate dehydrogenase; malate dehydrogenase, cytoplasmic; soluble malate dehydrogenase; MDHA; MOR2; MDH-s; MGC:1375; EC 1.1.1.37
Gene ID	4190
mRNA Refseq	NM_005917
Protein Refseq	NP_005908

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MIM	154200
UniProt ID	P40925
Chromosome Location	2p13.3
Function	L-malate dehydrogenase activity; NAD or NADH binding; malic enzyme activity; oxidoreductase activity

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