

Human Recombinant MDH1

CATALOG #:	6355-100	100 µg
ALTERNATE NAMES:	Malate dehydrogenase, cytoplasmic, MDH-s, MDHA, MOR2.	
SOURCE:	E.Coli	
PURITY:	> 95% by SDS - PAGE	
MOL. WEIGHT:	37.4 kDa (342 aa, 1-334 aa + CT His Tag)	
FORMULATION:	1 mg/ml solution in 20 mM Tris-HCl (pH 8.0) containing 10% glycerol.	

STORAGE CONDITIONS:

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.

DESCRIPTION:

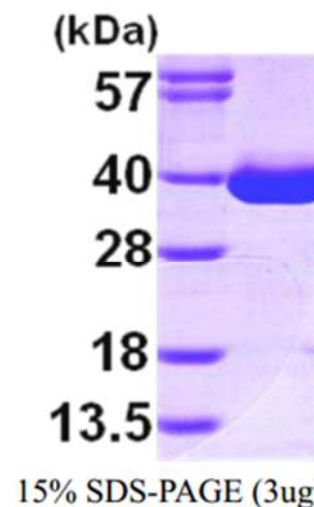
Malate Dehydrogenase, Cytoplasmic (MDH1) is an enzyme which belongs to the MDH Type 2 sub-family of LDH/MDH superfamily. MDH1 is involved in the Citric Acid Cycle that catalyzes the conversion of Malate into Oxaloacetate (using NAD⁺) and vice versa. MDH1 should not be confused with Malic Enzyme, which catalyzes the conversion of Malate to Pyruvate, producing NADPH. MDH1 also participates in Gluconeogenesis, the synthesis of Glucose from smaller molecules. Pyruvate in the mitochondria is acted upon by Pyruvate Carboxylase to form Oxaloacetate, a Citric Acid Cycle intermediate. In order to transport the Oxaloacetate out of the Mitochondria, Malate Dehydrogenase reduces it to Malate, and it then traverses the inner mitochondrial membrane. Once in the cytosol, the Malate is oxidized back to Oxaloacetate by MDH1. Finally, Phosphoenol-Pyruvate Carboxy Kinase (PEPCK) converts Oxaloacetate to Phosphoenol Pyruvate.

AMINO ACID SEQUENCE:

MSEPIRVLVT GAAGQIAYSL LYSIGNSVF GKDQPILVL LDITPMMGVL DGVLMELQDC
ALPLLKDVIA TDKEDVAFKD LDVAILVGSMP RREGMERKD LLKANVKIFK SQGAALDKYA
KKSVKVIVVG NPANTNCLTA SKSAPSIPKE NFSCLTRLDH NRAKAQIALK LGVTANDVKN
VIIWGNHSS QYPDVNHAKV KLQGKEVGVY EALKDDSWLK GEFVTTVQQR GAAVIKARKL
SSAMSAAKAI CDHVRDIWFG TPEGEFVSMG VISDGNISYGV PDDLISFPV VIKNKTWKVF
EGLPINDFSR EKMDLTAKEL TEEKESAFEF LSSALEHHHH HH

BIOLOGICAL ACTIVITY:

Specific activity is > 8 units/mg, and is defined as the amount of enzyme that cleaves 1 µmole of oxaloacetate and beta-NADH to L-malate and beta-NAD per minute at pH 7.5 at 25°C



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RELATED PRODUCTS:

- Malate assay kit (Cat. No. K637-100)
- Human recombinant MDH2 (Cat. No. 6356-50)
- Bacterial recombinant MDH (Cat. No. 6357-100)

FOR RESEARCH USE ONLY! Not to be used in humans.