

## MDH1 Protein, Human, Recombinant (His)

### General Information

Synonyms:	Cytosolic Malate Dehydrogenase;MDH1;MDHA;Diiodophenylpyruvate Reductase;Malate Dehydrogenase Cytoplasmic
Protein Construction:	Ser2-Ala334
Species:	Human
Expression Host:	E. coli
Accession:	P40925
Molecular Weight:	36 KDa (reducing condition)
AA Sequence:	Ser2-Ala334

### QC Testing

Biological Activity:	Measured by its ability to produce malate from oxaloacetate. The specific activity is >40,000 pmol/min/μg.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/μg (1 EU/μg) as determined by LAL test.
Formulation:	Supplied as a 0.2 μm filtered solution of 20 mM Tris-HCl, 150 mM NaCl, pH 8.0.

### Preparation and Storage

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months.

Please avoid multiple freeze-thaw cycles and store products in aliquots.

*Actual storage temperature shall be subject to the COA.*

#### Shipping:

Proteins are shipped with blue ice.

### Protein Background

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<sup>+</sup>) 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 Pxoaloacetate, 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.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481