# Product Data Sheet

| | |
|---|---|
| Product Name: | MDH E. coli |
| Cat. No.: | GP21905 |
| Batch No.: | 1 |

## Product Data

| | | | |
|---|---|---|---|
| Purity | >98% | Source | E.coli. |
| Phycical Appearance | solid | Shipping Condition | Shipped with Ice Packs. |
| Synonyms | Malate dehydrogenase cytoplasmic; EC 1.1.1.37; Cytosolic malate dehydrogenase; MDHA; MOR2; MDH-s; MGC:1375; MDH1. | | |
| Amino Acid Sequence | MGSSHHHHHH SSGLVPRGSH MGSHMKVAVL GAAGGIGQAL ALLLKTQLPS GSELSLYDIA PVTPGVAVDL SHIPTAVKIK GFSGEDATPA LEGADVVLIS AGVARKPGMD RSDLFNVNAG IVKNLVQQVA KTCPKACIGI ITNPVNTTVA IAAEVLKKAG VYDKNKLFGV TTLDIIRSNT FVAELKGKQP GEVEVPVIGG HSGVTILPLL SQVPGVSFTE QEVADLTKRI QNAGTEVVEA KAGGGSATLS MGQAAARFGL SLVRALQGEQ GVVECAYVEG DGQYARFFSQ PLLLGKNGVE ERKSIGTLSA FEQNALEGML DTLKKDIALG EEFVNK | | |
| Formulation | The MDH solution (1mg/ml) contains 20mM Tris-HCl buffer (pH 8.0), 50mM Nacl, 1mM DTT and 10% glycerol. | | |

## Introduction

Malate dehydrogenase (EC1.1.1.37) is an enzyme in the citric acid cycle that catalyzes the conversion of malate into oxaloacetate (using NAD+) and vice versa (this is a reversible reaction). Malate dehydrogenase is not to be confused with malic enzyme, which catalyzes the conversion of pyruvate using NADPH.Malate dehydrogenase is also involved 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 get 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 cytosolic malate dehydrogenase. Finally, phosphoenol-pyruvate carboxy kinase (PEPCK) converts oxaloacetate to phosphoenol pyruvate.

## Stability


***Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com***
***Address: 10292 Central Ave. #205, Montclair, CA, USA***

## Product Data Sheet

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).Avoid multiple freeze-thaw cycles.

### Background

MDH Recombinant produced inE. coli is a single polypeptide chain containing 336 amino acids (1-312) and having a molecular mass of 34.9kDa.MDH is fused to a 24 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.


***Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com***
***Address: 10292 Central Ave. #205, Montclair, CA, USA***