

Rat MDHA / MDH1 Protein (His Tag)

Catalog Number: 80232-R08E



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

HEL-S-32; MDH-s; MDHA; MGC:1375; MOR2; B230377B03Rik; D17921;
MDH-s; MDHA; Mor-2; Mor2

Protein Construction:

A DNA sequence encoding the rat MDH1 (O88989) (Met 4-Ala 334) was expressed with a polyhistidine tag at the C-terminus.

Source: Rat

Expression Host: E. coli

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met 1

Molecular Mass:

The recombinant rat MDH1 comprises 345 amino acids and predicts a molecular mass of 38 kDa. The apparent molecular mass of the rat MDH1 is approximately 39 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 20mM Tris, 10% glycerol, pH 8.0

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

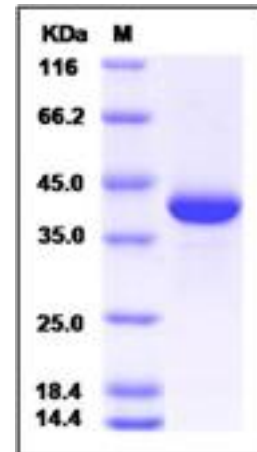
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Malate dehydrogenases 1(MDH1 / MDHA) is soluble form of malate dehydrogenases. Malate dehydrogenases (MDH) is a group of multimeric enzymes consisting of identical subunits usually organized as either dimer or tetramers with subunit molecular weights of 30-35 kDa. MDH has been isolated from different sources including archaea, eubacteria, fungi, plant and mammals. MDH catalyzes the NAD/NADH-dependent interconversion of the substrates malate and oxaloacetate. This reaction plays a key part in the malate / aspartate shuttle across the mitochondrial membrane, and in the tricarboxylic acid cycle within the mitochondrial matrix. The enzymes share a common catalytic mechanism and their kinetic properties are similar, which demonstrates a high degree of structural similarity. The three-dimensional structures and elements essential for catalysis are conserved between mitochondrial and cytoplasmic forms of MDH in eukaryotic cells even though these isoenzymes are only marginally related at the level of primary structure.

References

- 1.Minarik P, *et al.* (2002) Malate dehydrogenases--structure and function. *Gen Physiol Biophys.* 21 (3): 257-65.
- 2.Musrati RA, *et al.* (1998) Malate dehydrogenase: distribution, function and properties. *Gen Physiol Biophys.* 17 (3): 193-210.
- 3.Hall MD, *et al.* (1992) Crystal structure of Escherichia coli malate dehydrogenase. A complex of the apoenzyme and citrate at 1.87 Å resolution. *J Mol Biol.* 226 (3): 867-82.

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