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Product Information

Malic Dehydrogenase from porcine heart

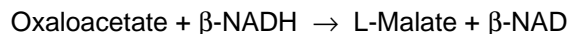
Product Number **M 2634**
Storage Temperature 2-8 °C

Product Description

Enzyme Commission Number: 1.1.1.37
CAS Number: 9001-64-3
Molecular Weight: 70 kDa¹
pI: 10.0²
Synonyms: Malate dehydrogenase porcine heart,
L-malate: NAD⁺ oxidoreductase, mitochondrial malate
dehydrogenase, MDH

Eukaryotic cells contain two different isozymes of malate dehydrogenase: mitochondrial (m-MDH) and soluble or cytoplasmic (s-MDH). This product consists of the mitochondrial form. Malate dehydrogenase from porcine heart is a dimer consisting of two equal subunits with a molecular weight of 35 kDa.³

The enzyme catalyzes the following reaction:



Reported K_M values are L-Malate (0.4 mM) and oxaloacetate (0.033 mM). The enzyme is specific for the L isomeric configuration of malate, as D-malate is not a substrate.⁴

The activity of malate dehydrogenase is inhibited by ATP, ADP, AMP, thyroxine, iodine cyanide, and molecular iodine.³

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Storage/Stability

This product is offered as a malic dehydrogenase solution in 50% glycerol containing 50 mM potassium phosphate buffer, pH 7.5. Dilute stock solutions should not be prepared.

References

1. Thorne, C., and Kaplan, N., Physicochemical properties of pig and horse heart mitochondrial malate dehydrogenase. *J. Biol. Chem.*, **238**, 1861 (1963).
2. Eanes, R.Z., and Kun, E., Separation and characterization of aconitate hydratase isoenzymes from pig tissues. *Biochim. Biophys. Acta*, **227**, 204-210 (1971).
3. Banaszak, L.J., and Bradshaw, R.A., *The Enzymes*, 3rd ed., Vol. 11, Boyer, P.D., ed., Academic Press (New York, NY: 1975), pp. 369-396.
4. *Methods of Enzymatic Analysis*, 2nd ed., Vol. I, Bergmeyer, H.U., ed., Academic Press (New York, NY: 1974), pp. 485-486.

TMG/AJH 1/03

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