

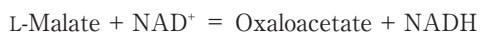
rMDH

Malate dehydrogenase, recombinant from bacteria

L-Malate : NAD⁺ oxidoreductase (EC 1.1.1.37)

Host cell : *E. coli*

Reaction Equation



Specification

Specific Activity

IU/mg protein

Specifications

>550 units

Contaminants

Fumarase (L-Malate)
L-Lactate dehydrogenase
Aspartate aminotransferase
Glutamate dehydrogenase (NAD⁺)
NADH oxidase

<0.01%
<0.01%
<0.01%
<0.001%
<0.001%

Profile

pH stability : pH 4.5 - 9.0 (25°C, 1 week)
Thermal stability : ≤80°C (pH 7.5, 15 min)
Optimum pH : 5.5 - 8.0
Optimum temperature : ≥37°C
Km value : 90 μmol/L (Oxaloacetate)
39 μmol/L (NADH)
MW : 40 kD (SDS-PAGE)

Assay Procedure

I. Spectrophotometric Method

Wavelength ; 340 nm, Light path length ; 1 cm,
Temperature ; 25°C

Pipette the following reagents into a cuvette

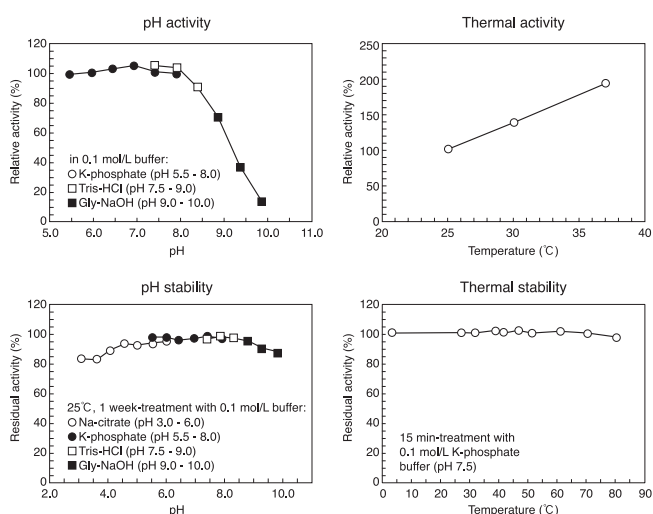
2.80 mL K-phosphate buffer (0.1 mol/L, pH 7.5)
0.15 mL Oxaloacetate (10 mmol/L)
0.05 mL NADH (10 mg/mL) dissolved in Tris
(10 mmol/L)
0.02 mL rMDH (about 3 IU/mL)

II. Calculation

$$\frac{\Delta A/\text{min} \cdot V \cdot D}{6.3 \cdot d \cdot v} = \text{IU/mL}$$

ΔA/min = The change in absorbance at 340 nm/minute
V = Total volume of reaction mixture (3.02 mL)
D = Enzyme dilution factor
6.3 = mM extinction coefficient of NADH
(L·mmol⁻¹·cm⁻¹)
d = Light path length (1 cm)
v = Volume of enzyme sample (0.02 mL)

Reference Data



Preparation and storage

Lyophilized powder (contains no ammonium sulfate)
.....below -20°C
IU per 1 mg powder is approximately 400 units.

OYC No./Package

OYC No.	Package
46756003	10,000 units
46755003	50,000 units
46756903	Bulk

(Research reagent use only, not for medical use.)

