

rMDH

recombinant Malate dehydrogenase EC 1.1.1.37

from *Bacteria*

Reaction Equation



Specification

Specific Activity

U/mg protein > 550 units

Contaminants

Fumarase	< 0.01%
L-Lactate dehydrogenase	< 0.01%
Aspartate transaminase	< 0.01%
Glutamate dehydrogenase (NAD ⁺)	< 0.001%
NADH oxidase	< 0.001%

Properties

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 temp.	: ≥ 37°C
Km value	: 9.0 × 10 ⁻⁵ mol/L (Oxaloacetate) 3.9 × 10 ⁻⁵ mol/L (NADH)
Molecular weight	: 40 kDa (SDS-PAGE)

Assay Procedure

I Spectrophotometric Method

Wavelength : 340 nm, Light path length : 1 cm

Final volume : 3.02 mL, 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 (approx. 3 U/mL)

II Calculation

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

Δ A/min = The change in absorbance at 340 nm/minute

V = Total volume of reaction mixture (3.02 mL)

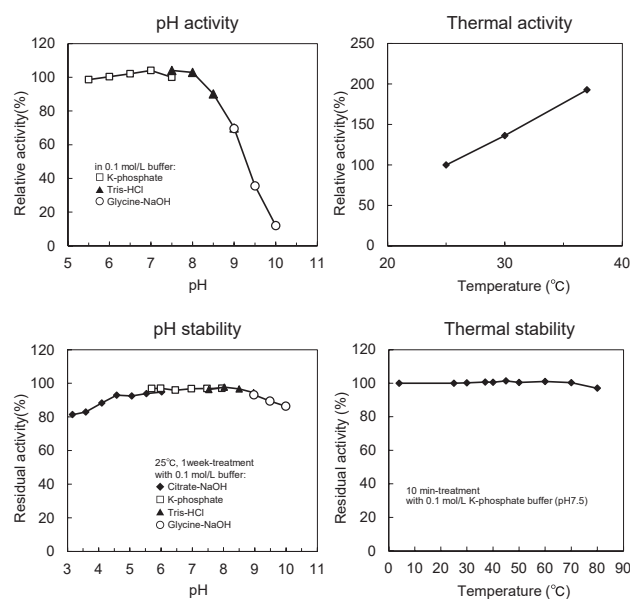
D = Enzyme dilution factor

6.3 = mmol/L 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 (Ammonium sulfate free)

Store below -20°C

Cat. No./Package

Cat. No.	Package
46756903	Bulk

