rD-LDH

recombinant D-Lactate dehydrogenase EC 1.1.1.28

from Bacteria

Reaction Equation

D-Lactate + NAD^+ ⇄ Pyruvate + NADH + H^+

Specification

Specific Activity

U/mg protein	> 800 units

Contaminants

Malate dehydrogenase	< 0.03%
Myokinase	< 0.02%
Pyruvate kinase	< 0.003%
Glutamic-pyruvic transaminase	< 0.001%
Glutamic-oxaloacetic transaminase	< 0.001%
α-hydroxyglutarate dehydrogenase	< 0.001%

Properties

pH stability : pH 5.5 - 9.5 (25°C, 1 week)
Thermal stability : ≦ 55°C (pH 7.5, 15 min)
Optimum pH : 7.0
Optimum temp. : 45 - 50°C
Km value : 2.6 × 10^{-4} mol/L (Pyruvate)
1.1 × 10^{-4} mol/L (NADH)
Molecular weight : 44 kDa (SDS-PAGE)

Assay Procedure

I Spectrophotometric Method

Wavelength : 340 nm, Light path length : 1 cm
Final volume : 3.17 mL, Temperature : 25°C

Pipette the following reagents into a cuvette

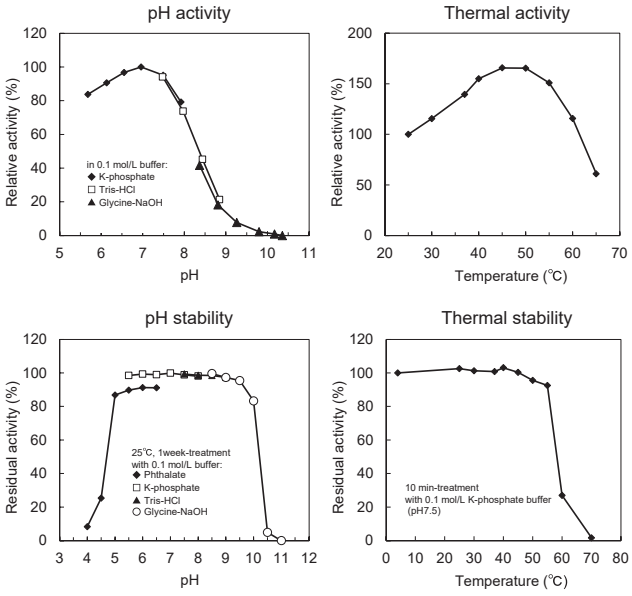
3.00 mL	K-phosphate buffer (0.1 mol/L, pH 7.0)
0.10 mL	Li-pyruvate or Na-pyruvate (25.4 mmol/L)
0.05 mL	NADH (10 mg/mL) dissolved in Tris (10 mmol/L)
0.02 mL	rD-LDH (approx. 3 U/mL)

II Calculation

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

Δ A/min = The change in absorbance at 340 nm/minute
V = Total volume of reaction mixture (3.17 mL)
D = Enzyme dilution factor
6.3 = mmol/L extinction coefficient of NADH ($L \cdot mmol^{-1} \cdot cm^{-1}$)
d = Light path length (1 cm)
v = Volume of enzyme sample (0.02 mL)

Reference Data



Preparation and Storage

Lyophilized powder
Store below -20°C

Cat. No./Package

Cat. No.	Package
46762903	Bulk

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