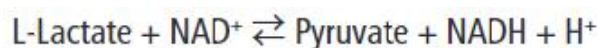


Recombinant L-Lactate Dehydrogenase (L-LDH)

L1492991

L-Lactate Dehydrogenase (L-LDH) is an enzyme found in nearly all living cells (animals, plants, and prokaryotes). LDH catalyzes the conversion of pyruvate to lactate and back, as it converts NADH to NAD⁺ and back. A dehydrogenase is an enzyme that transfers a hydride from one molecule to another.

Reaction Equation



Storage Conditions

Store at -20°C long term. Upon receipt, it is recommended to aliquot. Avoid freeze/thaw cycle.

Specific Activity

U/mg protein: > 260 units.

Contaminants.

Malate dehydrogenase: < 0.03%.

Myokinase: < 0.01%.

Pyruvate kinase: < 0.003%.

Glutamic-pyruvic transaminase*: < 0.03%.

Glutamic-oxaloacetic transaminase*: < 0.03%.

*Including α-Hydroxyglutarate dehydrogenase activity.

Properties

pH stability: pH 5.5 - 8.0 (25°C, 1 week).

Thermal stability: ≤55°C (pH 7.5, 10 min).

Optimum pH: 7.0 - 8.0.

Optimum temp.: 70°C.

K_m value: 6.5 × 10⁻⁵ mol/L (Pyruvate); 1.8 × 10⁻⁵ mol/L (NADH).

Molecular weight: 36 kDa (SDS - PAGE).

Assay Procedure

I Spectrophotometric Method

Wavelength 340 nm, Light path length 1 cm.

Final volume 3.17 mL, Temperature 25.

Pipette the following reagents into a cuvette.

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

II Calculation

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

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 ($\text{L} \cdot \text{mmol}^{-1} \cdot \text{cm}^{-1}$)

d=Light path length (1cm)

v=Volume of enzyme sample (0.02mL)

Reference Data

