

Leucine dehydrogenase from Microorganism

Product Information

Cat#	NATE-1715
Abbr	LEDH (Microorganism)
Similar	Leucine dehydrogenase
Source	Microorganism
Description	In enzymology, a leucine dehydrogenase (EC 1.4.1.9) is an enzyme that catalyzes the chemical reaction: L-leucine + H ₂ O + NAD ⁺ ↔ 4-methyl-2-oxopentanoate + NH ₃ + NADH + H ⁺ . The 3 substrates of this enzyme are L-leucine, H ₂ O, and NAD ⁺ , whereas its 4 products are 4-methyl-2-oxopentanoate, NH ₃ , NADH, and H ⁺ . This enzyme belongs to the family of oxidoreductases, specifically those acting on the CH-NH ₂ group of donors with NAD ⁺ or NADP ⁺ as acceptor. This enzyme participates in valine, leucine and isoleucine degradation and valine, leucine and isoleucine biosynthesis.
Form	White powder, lyophilized
Enzyme Commission Number	EC 1.4.1.9
Activity	>500U/mg protein
CAS No.	9082-71-7
Molecular Weight	43 kDa (SDS-PAGE)
Isoelectric point	6.6
pH Stability	6.0~11.0 (25°C, 15hr)
Michaelis Constant	2.6×10 ⁻⁴ M (NAD) 2.0×10 ⁻³ M(L-Leucine) 6.8×10 ⁻⁴ M(α-Ketoisocaproate) 4.2×10 ⁻² M (NH Cl) 2.3×10 ⁻⁴ M (NADH)



Creative Enzymes

Diagnostic Enzymes

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Unit Definition	One unit will convert one micromole of L-Leucine to α -Ketoisocaproate per minute at pH 10.5 at 37°C.
Optimum pH	above 11.0 (L-Leu \rightarrow α -K I C), 8.5 (α -K I C \rightarrow L-Leu)
Optimum temperature	55-60°C (L-Leu \rightarrow α -K I C) above 60°C (α -K I C \rightarrow L-Leu)
Thermal stability	< 55°C (pH 7.0, 20min)
Storage	Store at -20°C.
Inhibitors	Hg ²⁺
Synonyms	EC 1.4.1.9; Leucine dehydrogenase; L-leucine: NAD ⁺ oxidoreductase (deaminating); L-leucine dehydrogenase; L-leucine: NAD ⁺ oxidoreductase (deaminating); LeuDH