Creative Enzymes
Diagnostic Enzymes

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 + H2O + NAD+ ↔ 4-methyl-2-oxopentanoate + NH3 + NADH + H+. The 3 substrates of this enzyme are L-leucine, H2O, and NAD+, whereas its 4 products are 4-methyl-2-oxopentanoate, NH3, NADH, and H+. This enzyme belongs to the family of oxidoreductases, specifically those acting on the CH-NH2 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℃, 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)

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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℃.
Optimum pH	above11.0(L-Leu→α-K I C), 8.5(α-K I C→L-Leu)
Optimum temperature	55-60℃(L-Leu →α-K I C) above 60℃(α-K I C→L-Leu)
Thermal stability	< 55℃(pH 7.0, 20min)
Storage	Store at -20°C.
Inhibitors	Hg2+
Synonyms	EC 1.4.1.9; Leucine dehydrogenase; L-leucine: NAD+ oxidoreductase (deaminating); L-leucine dehydrogenase; L-leucine: NAD+ oxidoreductase (deaminating); LeuDH

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