



## Leucine dehydrogenase from Microorganism

### Product Information

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



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