

**Leucine Dehydrogenase from Bacillus sp.**

**Product Code:** 182650

**EC no:** 1.4.1.9

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**SKU:** 182650

**Category:** [Enzymes](#)

## PRODUCT DESCRIPTION

### SPECIFICATIONS:

#### EC 1.4.1.9

**Product name:** L-Leucine: NAD<sup>+</sup> oxidoreductase (deaminating)

**Appearance:** White amorphous powder, lyophilized

**Activity:** Grade II, 20 U/mg-solid or more (contains approx. 70% of stabilizers)

**Contaminants:** Leucylpeptide decomposing enzymes:

(Leu-Val):  $\leq 1.0 \times 10^{-2}\%$ , (Leu-Gly-Gly):  $\leq 1.0 \times 10^{-2}\%$

NADH oxidase:  $\leq 1.0 \times 10^{-2}\%$

**Stabilizers:** 2-Mercaptoethanol, L-cysteine, dithiothreitol, ethylenediaminetetraacetate

**Stability:** Stable at -20 °C for at least 12 months

**Molecular weight:** 245,000

**Michaelis constants:**  $1.0 \times 10^{-3} \text{M}$  (L-Leucine),  $3.9 \times 10^{-4} \text{M}$  ( $\text{NAD}^+$ ),  $3.5 \times 10^{-5} \text{M}$  ( $\text{NADH}$ ),  $3.1 \times 10^{-4} \text{M}$   $\alpha$ -Ketoisocaproate ( $\alpha$ -KIC),  $2.0 \times 10^{-1} \text{M}$  ( $\text{NH}_3$ )

**Structure:** 6 subunits per mol of enzyme

**Inhibitors:**  $\text{Na}_2\text{S}$ ,  $\text{Hg}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{Co}^{2+}$ ,  $\text{Mg}^{2+}$ , p-chloromercuribenzoate

**Optimum pH:** 10.5 - 10.8 (L-Leu  $\rightarrow$   $\alpha$ -KIC), 9.4 ( $\alpha$ -KIC  $\rightarrow$  L-Leu)

**Optimum temperature:** above  $70^\circ\text{C}$

**pH Stability:** pH 5.5–10.5 ( $25^\circ\text{C}$ , 20hr)

**Thermal stability:** Below  $60^\circ\text{C}$  (pH 6.9, 10min)