

ENZYMES

BY

SORACHIM

D-Lactate Dehydrogenase from microorganism

LCD-211

SPECIFICATIONS

Product name	(R)-Lactate: NAD ⁺ oxidoreductase
EC	1.1.1.28
Appearance	White amorphous powder lyophilized
Activity	Grade II, 400U/mg-protein or more
Contaminants	Malate dehydrogenase $\leq 1.0 \times 10^{-2}\%$ Myokinase $\leq 1.0 \times 10^{-2}\%$ Pyruvate kinase $\leq 1.0 \times 10^{-3}\%$ NADH oxidase $\leq 1.0 \times 10^{-3}\%$ GOT $\leq 5.0 \times 10^{-3}\%$ GPT $\leq 5.0 \times 10^{-3}\%$
Stability	Stable at - 20°C for at least 12 months
Molecular weight	approx. 140,000 (by gel filtration)
Isoelectric point	4.0
Michaelis constant	1.6×10^{-4} M (pyruvate, pH 7.0)
Inhibitors	Ag ⁺ , Hg ²⁺ , SH-reagents
Optimum pH	6.0 - 7.0
Optimum temperature	35 - 40 °C
pH Stability	pH 5.0 - 9.0 (25 °C, 48hr)
Thermal stability	below 45 °C (pH 7.0, 15min)

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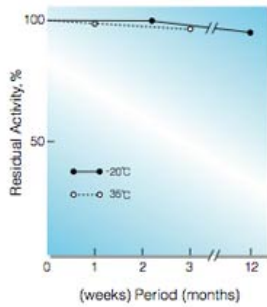


Fig.1. Stability (Powder form)
(kept under dry conditions)

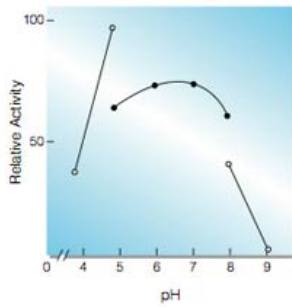


Fig.2. pH-Activity
(in 67mM buffer solution; pH 4-5, acetate; pH5-8, K-phosphate; pH8-9 Tris-HCl)

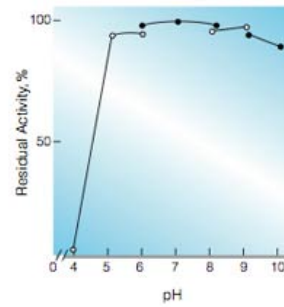


Fig.4. pH-Stability
(25°C, 48hr-treatment with 0.1M buffer solution; pH 4-6, dimethylglutaric acid-NaOH; pH6-8, K-phosphate; pH 8-9, Tris-HCl; pH9-10, glycine-NaOH, enzyme concn.: 10U/ml)

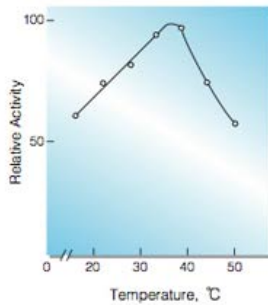


Fig.3. Temperature activity
(in 67mM K-phosphate buffer, pH7.4)

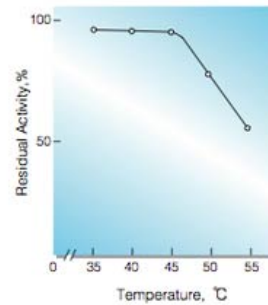


Fig.5. Temperature stability
(15 min-treatment with 50mM K-phosphate buffer, pH7.0, enzyme concn.: 10U/ml)

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