

ENZYMES

BY

SORACHIM

Lactate Oxidase from Microorganism

LCO-301

SPECIFICATIONS

Product name	L-Lactate: oxygen oxidoreductase
EC	1.13.12.4 (ex 1.1.3.2)
Appearance	Yellowish amorphous powder, lyophilized
Molecular weight	approx. 160,000 (gel filtration)
Activity	> 80 U/mg solid or more
Contaminants	Pyruvate oxidase: < 0.001 % Uricase: < 0.001 % Glucose oxidase: < 0.001 % Cholesterol oxidase: < 0.001 %
Stability	Stable at - 20 °C for at least 12 months
Inhibitors	Fe ⁺⁺⁺ , SDS
Michaelis constant	L-lactate : 1 x 10 ⁻³ M
Isoelectric point	4.3 ± 0.2
Optimum pH	7.5
Optimum temperature	35 - 40 °C
pH Stability	4.0 - 9.8 (25 °C, 16h)
Thermal stability	below 50 °C (pH 7.0, 10min)

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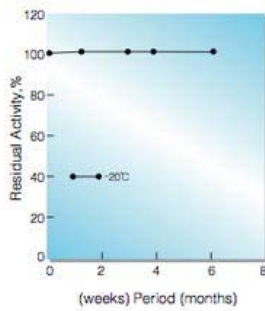


Fig.1. Stability (Powder form)
(kept under dry conditions)

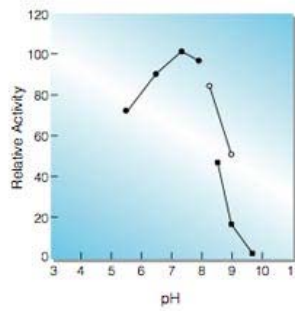


Fig.2. pH-Activity
[37°C, in 20mM buffer solution]
● pH5.7-7.9 K-phosphate;
○ pH8.2-9.0 borate;
■ pH8.6-9.6 glycine-NaOH

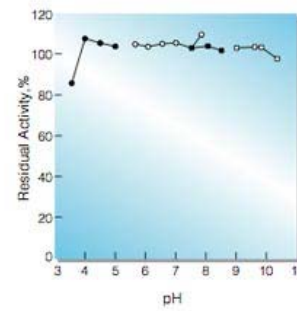


Fig.4. pH-Stability
[25°C, 16hr-treatment with 50mM buffer solution]
● pH3.6-5.0 acetate;
○ pH5.6-7.8 K-phosphate;
■ pH7.5-8.5 Tris-HCl;
□ pH8.9-10.2 glycine-NaOH

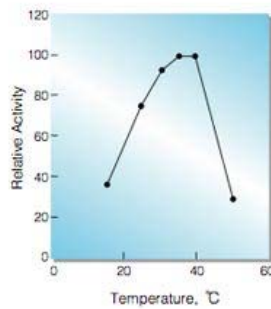


Fig.3. Temperature activity
(in 20mM K-phosphate, pH7.5)

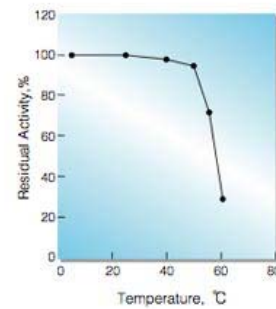


Fig.5. Thermal stability
[10min-treatment with 20mM ACES-NaOH, pH7.0, Enzyme concentration: 100U/ml]