D-3-Hydroxybutyrate Dehydrogenase from Microorganism

HBD-311

SPECIFICATIONS

Product name	(R)-3-hydroxybutanoate: NAD^+ oxidoreductase
EC	1.1.1.30
Appearance	white amorphous powder lyophilized
Activity	450 U/mg-solid or more
Contaminants	NADH oxidase ≤ 2.0×10^{-3}%
	Malate dehydrogenase ≤ 2.0×10^{-3}%
	Lactate dehydrogenase ≤ 2.0×10^{-3}%
Stability	Stable at －20℃ for at least 12 months
Molecular weight	approx. 28,000 (SDS-PAGE)
Michaelis constants	1.4 mM (37℃, pH 8.3), D-3-Hydroxybutyrate
	0.15 mM (37℃, pH 8.3), NAD^+
Optimum pH	8.0 – 8.5
Optimum temperature	Above 50 ℃
pH Stability	pH 5.0 - 10.5 (25 ℃, 20 h)
Thermal stability	below 40 ℃ (pH 6.5, 15 min)

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SPECIFICATIONS

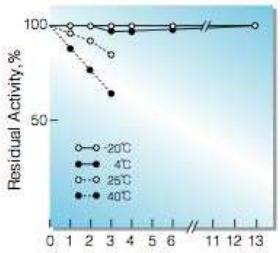

Fig.1. Stability (Powder form)
(kept under dry conditions)

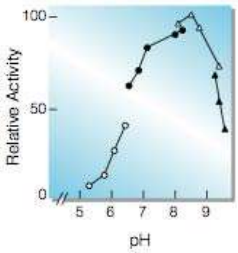

Fig.2. pH-Activity
(37℃,5min-reaction in 0.1M buffer solution: pH5.3-6.5, dimethylglutaric acid-NaOH;pH5.9-8.3,K-phosphate;pH7.9-9.1,Tris-HCl: pH8.9-9.2,K_2CO_3-$NaHCO_3$)

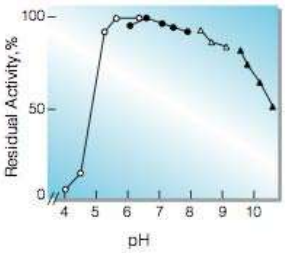

Fig.4.pH-Stability
(25℃,20hr-treatment with 50mM buffer solution:pH4.0-6.0, dimethylglutaric acid-NaOH;pH6.0-8.0, K-phosphate;pH8.0-9.0, Tris-HCl;pH9.0-10.5, K_2CO_3-$NaHCO_3$)

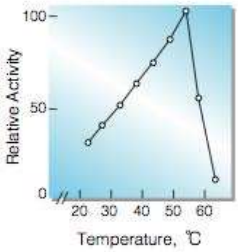

Fig.3. Temperature activity
(in 0.1M Tris-HCl buffer, pH8.3)

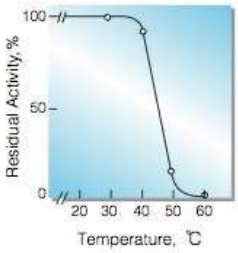

Fig.5. Thermal stability
(15min-treatment with 50mM K-phosphate buffer,pH6.5. enzyme concn.:50U/ml)