

ENZYMES

BY

SORACHIM

D-Fructose Dehydrogenase from *Gluconobacter* sp.

FCD-302

SPECIFICATIONS

Name	D-Fructose:(acceptor) 5-oxidoreductase
EC	1.1.99.11
Appearance	Red-yellowish amorphous powder, lyophilized
Activity	Grade III, 20 U/mg-solid or more (contains approx. 80% stabilizers)
Stabilizers	Sugars, amino acids, BSA
Stability	Stable at -20°C for at least 12 months
Molecular weight	approx. 140,000 (by gel filtration)
Isoelectric point	5.0±0.1
Michaelis constant	5×10 ⁻³ M (D-Fructose)
Inhibitors	Ag ⁺ , Hg ²⁺ , SDS
Optimum pH	4.0
Optimum temperature	37°C
pH Stability	pH 4.0 - 6.0 (25°C, 16hr)
Thermal stability	below 40°C (pH 4.5, 15min)

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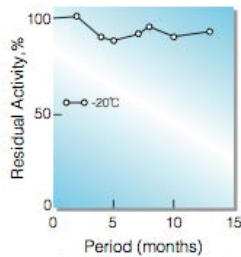


Fig.1. Stability (Powder form)
(kept under dry conditions)

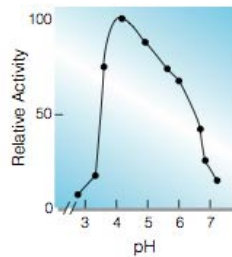


Fig.2. pH-Activity
(37°C, 5min-reaction in McIlvaine buffer solution)

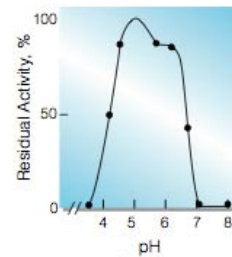


Fig.4. pH-Stability
(25°C, 16hr-treatment with McIlvaine buffer solution)

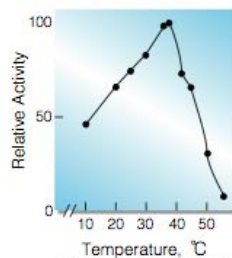


Fig.3. Temperature activity
(in McIlvaine buffer, pH4.5)

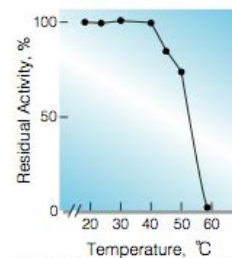


Fig.5. Thermal stability
(15min-treatment with McIlvaine buffer pH4.5, enzyme concn. .3U/ml)