Glucose Oxidase from Aspergillus sp.

GLO-101

SPECIFICATIONS

Name	β-D-Glucose:oxygen 1-oxydoreductase
EC	1.1.3.4
Appearance	Yellowish amorphous powder lyophilized
Activity	Grade I, 180 U/mg-solid or more
Contaminants	Catalase ≤ 5 x 10^{-3} %
Stabilizers	Potassium gluconate, sodium glutamate
Stability	Stable at －20℃ for at least 12 months
Molecular weight	approx. 153,000
Michaelis constants	3.3×10^{-2} M (β-D-Glucose) 6.1×10^{-2}M (2-Deoxyglucose)
Structure	Glycoprotein with 2 moles of FAD
Inhibitors	p-Chloromercuribenzoate, heavy metal ions
Optimum pH	4.5
Optimum temperature	40－50 ℃
pH Stability	pH 4.5－6.0 (30 ℃, 20hr)
Thermal stability	below 50 ℃ (pH 5.7, 1hr)

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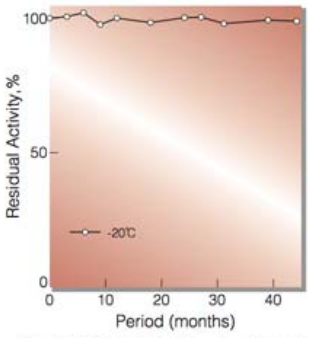

Fig.1. Stability (Powder form)
[kept under dry conditions]

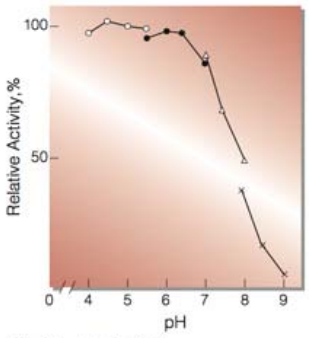

Fig.3. pH-Activity
[37℃,5min-reaction in 79mM buffer solution : ○—○ . acetate:●—● MES;△—△, BES;×—×, BICINE]

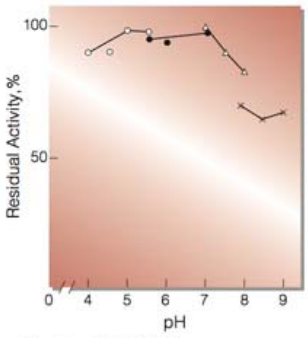

Fig.5. pH-Stability
[30℃,20hr-treatment with 0.1M buffer solution : ○—○ . acetate : ●—● MES : △—△, BES : ×—×, BICINE]

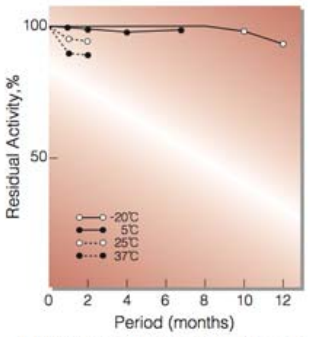

Fig.2. Stability (Powder form)
[kept under dry conditions]

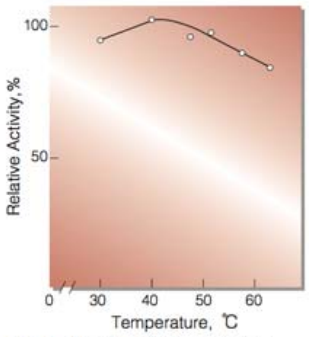

Fig.4. Temperature activity
[5min-reaction in 79mM MES buffer, pH5.7]

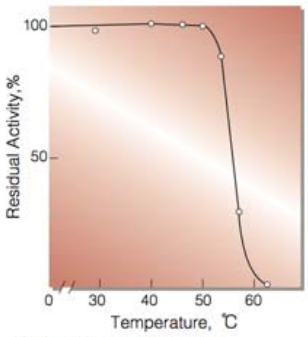

Fig.6. Thermal stability
[1hr-treatment in 79mM MES buffer , pH5.7]

Substrate (0.1M)	D-Glucose	Glucono-1,5-lactone	L-Glucose	Galactose	Mannose
Relative activity (%)	100	0.06	0	3.1	2.1

Substrate (0.1M)	Fructose	Xylose	Ribose	Maltose	Lactose
Relative activity (%)	0.24	0.93	0	0.69	0

Table 1: Substrate specificity of Glucose oxidase (0.1M of substrate, 79mM MES, pH 5.7 at 30°C)