

# ENZYMES

BY

# SORACHIM

## Glucose Oxidase from *Aspergillus* sp.

### GLO-2022

#### SPECIFICATIONS

Name	$\beta$ -D-Glucose:oxygen 1-oxydoreductase
EC	1.1.3.4
Appearance	Yellowish amorphous powder lyophilized
Activity	Grade II, 200 U/mg-solid or more (containing approx. 50% of stabilizers)
Contaminants	Catalase $\leq$ 3.0%
Stabilizers	Potassium gluconate, sodium glutamate
Stability	Stable at - 20°C for at least 12 months
Molecular weight	approx. 153,000
Michaelis constants	$3.3 \times 10^{-2}$ M ( $\beta$ -D-Glucose) $6.1 \times 10^{-2}$ M (2-Deoxyglucose)
Structure	Glycoprotein with 2 moles of FAD
Inhibitors	p-Chloromercuribenzoate, heavy metal ions
Optimum pH	4.5
Optimum temperature	40 - 50 °C
pH Stability	pH 4.5 - 6.0 (30 °C, 20hr)
Thermal stability	below 50 °C (pH 5.7, 1hr)

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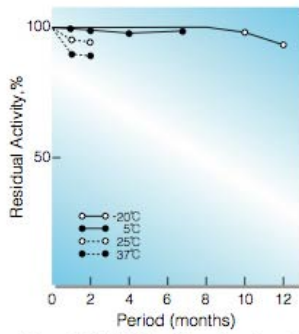


Fig.1. Stability (Powder form)  
[ kept under dry conditions ]

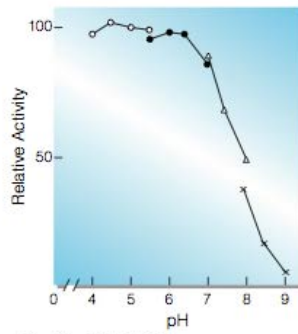


Fig.2. pH-Activity  
[ 37°C, 5min-reaction in 79mM buffer  
solution : ○—○, acetate; ●—●  
MES; △—△, BES; ×—×, BICINE ]

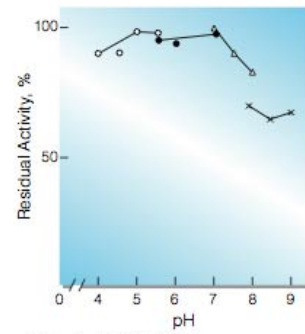


Fig.4. pH-Stability  
[ 30°C, 20hr-treatment with 0.1M buffer  
solution : ○—○, acetate; ●—●  
MES; △—△, BES; ×—×, BICINE ]

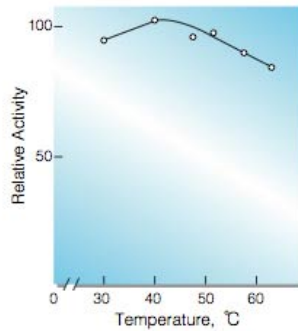


Fig.3. Temperature activity  
[ 5min-reaction in 79mM MES buffer, pH5.7 ]

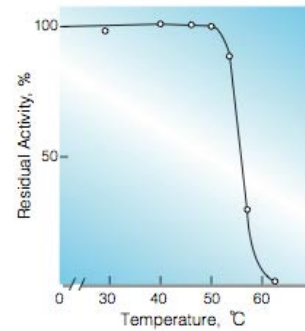


Fig.5. Thermal stability  
[ 1hr-treatment in 79mM MES buffer, pH5.7 ]