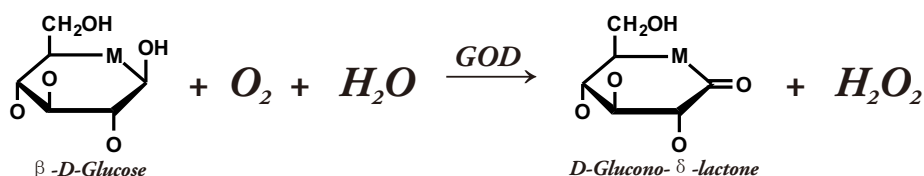


# GLUCOSE OXIDASE

$\beta$ -D-Glucose:oxygen 1-oxidoreductase

## REACTION:



## PRODUCT DESCRIPTION

Catalog No.:	qs50048
Appearance:	Yellow amorphous powder
Source:	Aspergillus niger
Enzyme Commission Number:	EC 1.1.3.4
CAS Number:	9001-37-0
Storage temperature:	-20°C
Specific activity:	$\geq 300$ U/mg protein
Unit definition:	One unit will oxidize one micromole of glucose per min at pH 5.7 at 37°C.

## PROPERTIES

Molecular weight:	approx 150 kDa (SDS-PAGE)	
Isoelectric point:	5.2	
Michaelis constant:	$4.9 \times 10^{-2}$ M (D-glucose)	
Optimum pH:	5.0-6.0	{Fig. 1}
Optimum temperature:	50°C	{Fig. 3}
pH Stability:	5.5-7.5 (25°C, 18hr)	{Fig. 2}
Thermal stability:	< 40°C (pH 5.7, 60min)	{Fig. 4}
Inhibitors:	$Cu^{2+}$ , $Fe^{3+}$ , $Mg^{2+}$ , $Mn^{2+}$	
Effect of various chemicals:	{Table 1}	

**Table 1.**

**Effect of Various Chemicals on GOD**

[The enzyme dissolved in 10mM MES buffer, pH 5.7, containing 0.1% triton X-100 (10U/ml) was incubated with each chemical at 37°C for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl <sub>2</sub>	2.0	100%
CoCl <sub>2</sub>	2.0	95%
CuSO <sub>4</sub>	2.0	32%
FeCl <sub>3</sub>	2.0	77%
MgSO <sub>4</sub>	2.0	71%
MnSO <sub>4</sub>	2.0	83%
NiCl <sub>2</sub>	2.0	93%
ZnSO <sub>4</sub>	2.0	100%

Chemical	Concn. (mM)	Residual activity
BME	2.0	89%
NEM	2.0	84%
EDTA	5.0	90%
Proclin	0.045%	93%
NaN <sub>3</sub>	20.0	90%
Na-cholate	0.10%	94%
SDS	0.05%	92%
Triton X-100	0.10%	92%
Tween 20	0.10%	95%

