

PYRANOSE OXIDASE

pyranose:oxygen 2-oxidoreductase

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	SDZ500431
Appearance:	Yellow liquid
Source:	Microorganism
Enzyme Commission Number:	EC 1.1.3.10
CAS Number:	37250-80-9
Storage temperature:	2-8°C
Activity:	≥900U/ml
Unit definition:	One unit will convert one micromole of D-Glucose to 2-Dehydro - D-glucose per minute at pH 7.0 at 37°C.

PROPERTIES

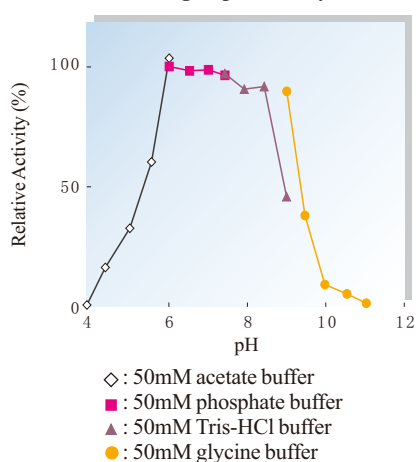
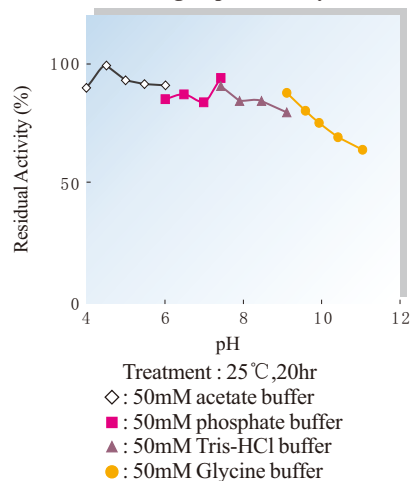
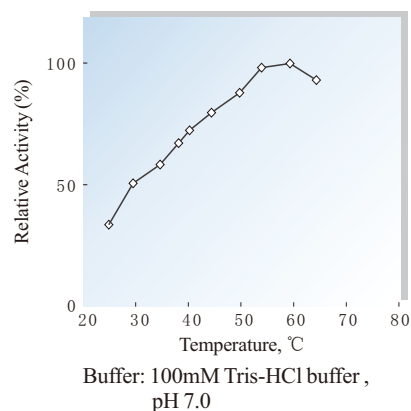
Molecular weight:	70kDa (SDS-PAGE)	
Isoelectric point:	5.9	
Michaelis constant:	8.6×10 ⁻³ M(1.5 anhydroglucitol) 7.12×10 ⁻⁴ M (D-glucose)	
Optimum pH:	6.0-7.5	{Fig. 1}
Optimum temperature:	60°C	{Fig. 3}
pH Stability:	4.5-6.0(25°C,25hr)	{Fig. 2}
Thermal stability:	40-55°C (pH 7.0, 30min)	{Fig. 4}
Inhibitors:	Cu ²⁺	
Effect of various chemicals:		{Table 1}

Table 1.**Effect of Various Chemicals on PROD**

[The enzyme dissolved in 0.1M Tris-HCl buffer, pH 7.0 (5.2U/ml) was incubated with each chemical at 37°C for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	102%
CoCl ₂	2.0	101%
CuSO ₄	2.0	76%
FeCl ₃	2.0	100%
MgSO ₄	2.0	103%
MnSO ₄	2.0	102%
NiCl ₂	2.0	101%
ZnSO ₄	2.0	105%
BME	2.0	100%

Chemical	Concn. (mM)	Residual activity
NEM	2.0	91%
EDTA	5.0	102%
NaN ₃	20.0	101%
Proclin	0.045%	99%
Na-cholate	0.10%	99%
SDS	0.05%	93%
Triton X-100	0.10%	106%
Tween 20	0.10%	112%
Boric Acid-Borax	2.0	92%

Fig. 1 pH Activity**Fig. 2 pH Stability****Fig. 3 Temperature activity****Fig. 4 Thermal stability**