

GLUCOSE KINASE

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	SDZ500600
Appearance:	White amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 2.7.1.2
CAS Number:	9001-36-9
Storage temperature:	2-8°C less than 15 days -20°C long term
Specific activity:	≥ 200U/mg protein
Unit definition:	One unit will convert one micromole of D-Glucose to D-Glucose-6-phosphate per minute at pH 8.0 at 30°C .

PROPERTIES

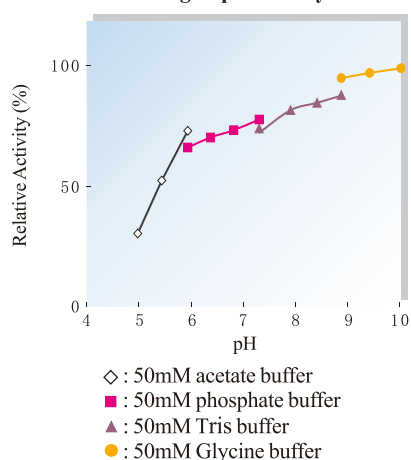
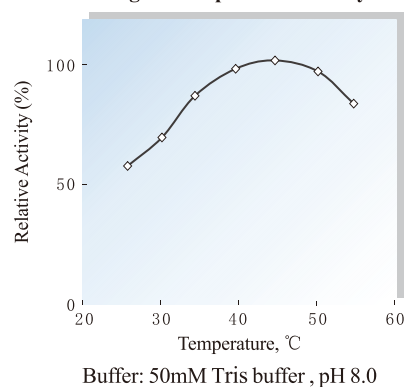
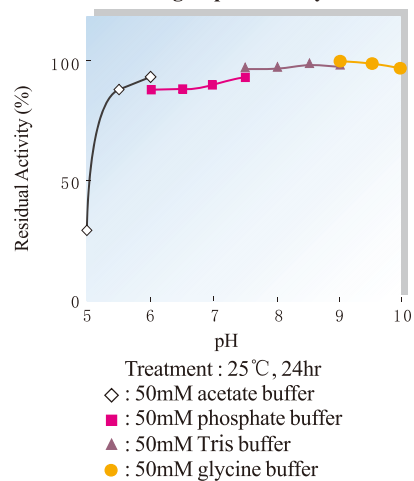
Molecular weight	33kDa(SDS-PAGE)	
Isoelectric point:	5.7	
Michaelis constant:	8.0×10 ⁻⁴ M(D-Glucose)	
Optimum pH:	9.0-10.0	{Fig. 1}
Optimum temperature:	45°C	{Fig. 3}
pH Stability:	6.0-10.0(25°C, 20hr)	{Fig. 2}
Thermal stability:	< 50°C (pH 7.0, 30min)	{Fig. 4}
Inhibitors:	Cu ²⁺ , Fe ³⁺ , SDS	
Effect of various chemicals:		{Table 1}

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

[The enzyme dissolved in 50mM Tris-HCl buffer +0.1%BSA, pH 8.0 (10U/ml) was incubated with each chemical at 37°C for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	100%
CoCl ₂	2.0	90%
CuSO ₄	2.0	0%
FeCl ₃	2.0	26%
MgSO ₄	2.0	100%
MnSO ₄	2.0	100%
NiCl ₂	2.0	98%
ZnSO ₄	2.0	86%
K ₄ Fe(CN) ₆	2.0	87%

Chemical	Concn. (mM)	Residual activity
BME	2.0	124%
NEM	2.0	91%
EDTA	5.0	100%
NaN ₃	20.0	100%
Proclin	0.045%	110%
Na-cholate	0.10%	100%
SDS	0.05%	0%
Triton X-100	0.10%	110%
Tween 20	0.10%	108%

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