

HEXOKINASE

ATP:D-Hexose 6-phosphotransferase

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	qs50036
Appearance:	White amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 2.7.1.1
CAS Number:	9001-51-8
Storage temperature:	-20°C
Specific activity:	≥ 500U/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:	55kDa (SDS-PAGE)	
Isoelectric point:	5.5	
Michaelis constant:	2.9×10 ⁻³ M(Glucose) 1.5×10 ⁻³ M(ATP)	
Optimum pH:	9.0	{Fig. 1}
Optimum temperature:	50°C -55°C	{Fig. 3}
pH Stability:	5.0-7.5 (25°C, 17hr)	{Fig. 2}
Thermal stability:	< 37°C (pH 8.0,30min)	{Fig. 4}
Inhibitors:	Co ²⁺ , Cu ²⁺ , Fe ³⁺ , Mn ²⁺ , Ni ²⁺ , Zn ²⁺ , NEM, Proclin, SDS, Triton X-100	
Effect of various chemicals:		{Table 1}

Table 1.

Effect of Various Chemicals on HK

[The enzyme dissolved in 50mM Tris buffer with 0.1% BSA, pH 7.5 (10U/ml) was incubated with each chemical at 37°C for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	93%
CoCl ₂	2.0	0%
CuSO ₄	2.0	0%
FeCl ₃	2.0	0%
MgSO ₄	2.0	100%
MnSO ₄	2.0	80%
NiCl ₂	2.0	0%
ZnSO ₄	2.0	0%

Chemical	Concn. (mM)	Residual activity
BME	2.0	94%
NEM	2.0	0%
EDTA	5.0	105%
Proclin	0.045%	0%
NaN ₃	20.0	96%
Na-cholate	0.10%	90%
SDS	0.05%	0%
Triton X-100	0.10%	73%
Tween 20	0.10%	104%

