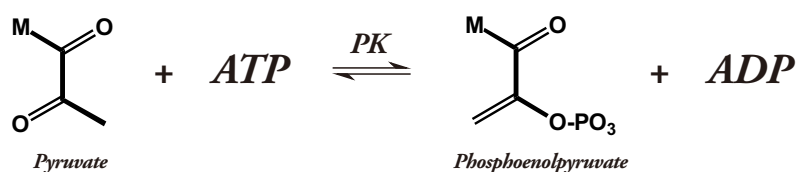


PYRUVATE KINASE

ATP:pyruvate 2-O-phosphotransferase

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	qs50022
Appearance:	White amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 2.7.1.40
CAS Number:	9001-59-6
Storage temperature:	-20°C
Specific activity:	≥ 300U/mg protein
Unit definition:	One unit will convert one micromole of phosphoenolpyruvate to pyruvate per min at pH 7.2 at 30°C.

PROPERTIES

Molecular weight:	68 kDa (SDS-PAGE)	
Isoelectric point:	5.2	
Michaelis constant:	1.1 × 10 ⁻³ M (ADP)	
	2.2 × 10 ⁻³ M (PEP)	
Optimum pH:	7.5	{Fig. 1}
Optimum temperature:	65°C	{Fig. 3}
pH Stability:	5.0-10.0 (37°C, 20hr)	{Fig. 2}
Thermal stability:	< 60°C (pH 8.5, 20min)	{Fig. 4}
Inhibitors:	Ca ²⁺ , Co ²⁺ , Cu ²⁺ , Fe ³⁺ , Mn ²⁺ , Ni ²⁺ , NEM, Proclin, SDS	
Effect of various chemicals:		{Table 1}

Table 1.

Effect of Various Chemicals on PK

[The enzyme dissolved in 50mM imidazole buffer, 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	73%
CoCl ₂	2.0	55%
CuSO ₄	2.0	65%
FeCl ₃	2.0	12%
MgSO ₄	2.0	95%
MnSO ₄	2.0	77%
NiCl ₂	2.0	77%
ZnSO ₄	2.0	113%

Chemical	Concn. (mM)	Residual activity
BME	2.0	103%
NEM	2.0	69%
EDTA	5.0	91%
Proclin	0.045%	73%
NaN ₃	20.0	103%
Na-cholate	0.10%	122%
SDS	0.05%	14%
Triton X-100	0.10%	125%
Tween 20	0.10%	105%

Fig. 1 pH Activity

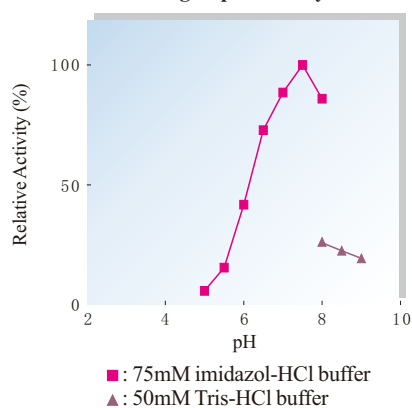


Fig. 3 Temperature activity

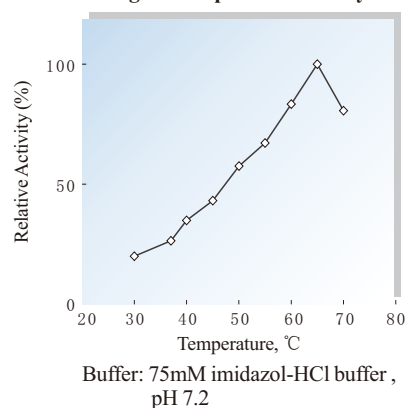


Fig. 2 pH Stability

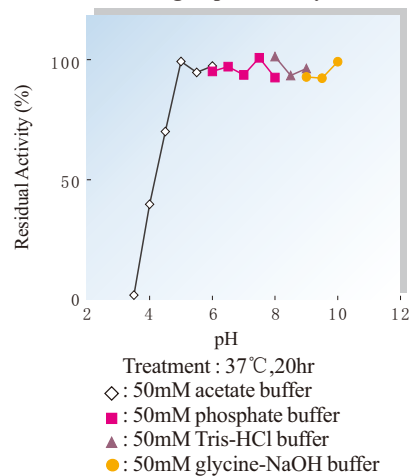


Fig. 4 Thermal stability

