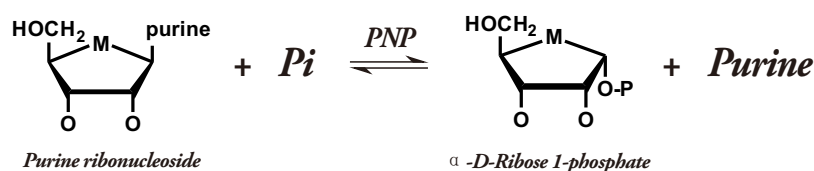


PURINE-NUCLEOSIDE PHOSPHORYLASE

Purine-nucleoside: orthophosphate ribosyltransferase

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	qs50045
Appearance:	White amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 2.4.2.1
CAS Number:	9030-21-1
Storage temperature:	-20°C
Specific activity:	≥ 200U/mg protein
Unit definition:	One unit will cause the phosphorolysis of one micromole of inosine to hypoxanthine and ribose 1-phosphate per min at pH 7.7 at 37°C.

PROPERTIES

Molecular weight:	32 kDa (SDS-PAGE)	
Isoelectric point:	6.0	
Michaelis constant:	2.2×10^{-4} M(Inosine)	
Optimum pH:	7.5- 8.0	{Fig. 1}
Optimum temperature:	60°C	{Fig. 3}
pH Stability:	5.0-10.0(30°C,16hr)	{Fig. 2}
Thermal stability:	< 55°C (pH 7.7, 30min)	{Fig. 4}
Inhibitors:	Co^{2+} , Cu^{2+} , Fe^{3+} , NEM, Proclin, SDS	
Effect of various chemicals:		{Table 1}

Table 1.

Effect of Various Chemicals on PNP

[The enzyme dissolved in 50mM K-phosphate 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	98%
CoCl ₂	2.0	84%
CuSO ₄	2.0	25%
FeCl ₃	2.0	83%
MgSO ₄	2.0	103%
MnSO ₄	2.0	100%
NiCl ₂	2.0	94%
ZnSO ₄	2.0	93%

Chemical	Concn. (mM)	Residual activity
BME	2.0	100%
NEM	2.0	6%
EDTA	5.0	97%
Proclin	0.045%	12%
NaN ₃	20.0	99%
Na-cholate	0.10%	104%
SDS	0.05%	78%
Triton X-100	0.10%	107%
Tween 20	0.10%	112%

Fig. 1 pH Activity

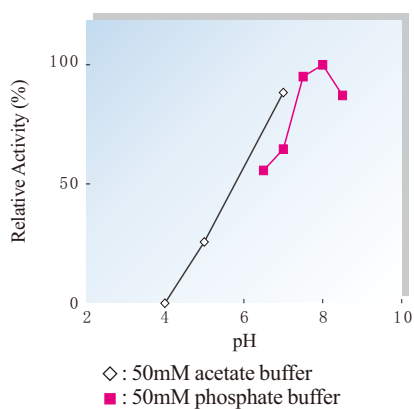


Fig. 3 Temperature activity

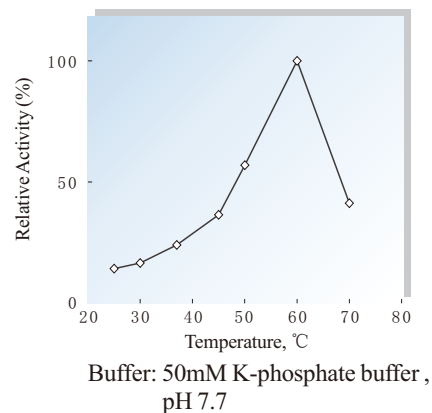


Fig. 2 pH Stability

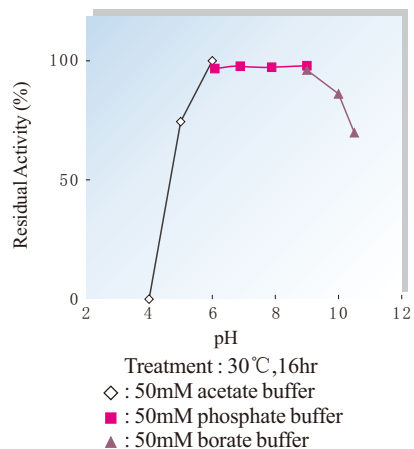


Fig. 4 Thermal stability

