

ENZYMES

BY

SORACHIM

Purine-Nucleoside Phosphorylase from Microorganism

PNP-311

SPECIFICATIONS

Name	Purine-nucleoside: orthophosphate ribosyltransferase
EC	2.4.2.1
Appearance	White amorphous powder lyophilized
Activity	Grade III, 15 U/mg-solid or more
Contaminants	Catalase \leq 20% 5'-Nucleosidase \leq 1.0×10^{-3} % Adenosine deaminase \leq 1.0×10^{-3} % ATPase \leq 1.0×10^{-2} %
Stabilizers	K-Gluconate, mannitol, EDTA
Stability	Stable at - 20°C for at least 12 months
Molecular weight	Approx. 120,000
Isoelectric point	4.1 \pm 0.1
Michaelis constants	6.4×10^{-5} M (Inosine), 3.2×10^{-4} M (Pi)
Inhibitors	p-Chloromercuribenzoate, SDS, Hg ²⁺ , Ag ⁺
Optimum pH	7.5 – 8.0
Optimum temperature	65°C
pH Stability	pH 6.0 – 9.0 (30°C, 16hr)
Thermal stability	Below 60°C (pH 7.7, 30min)

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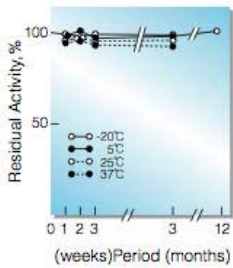


Fig.1. Stability (Powder form)
(kept under dry conditions)

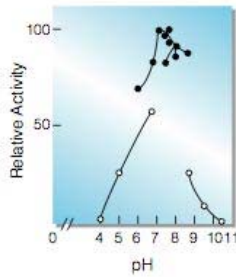


Fig.2. pH-Activity
[37°C, 3min-reaction in 50mM buffer solution: pH4.0-7.0, acetate; pH6.5-8.5-K-phosphate; pH8.0-9.0, Tris-HCl; pH8.5-10.5, borate.]

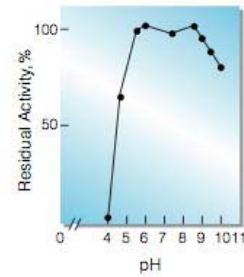


Fig.4. pH-Stability
[30°C, 16hr-treatment with 50mM buffer solution: pH4.0-6.0, acetate; pH6.0-9.0, K-phosphate; pH9.0-10.0, borate]

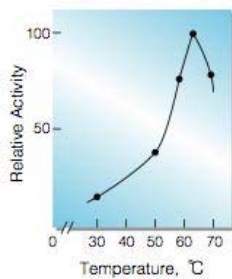


Fig.3. Temperature activity
[5min-reaction in 50mM K-phosphate buffer pH7.7.]

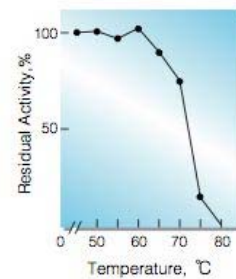


Fig.5. Thermal stability
[30min-treatment with 50mM K-phosphate buffer, pH7.7. enzyme concentration: 10U/ml]

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