Creative Enzymes®

Native Bacillus stearothermophilus Polynucleotide Phosphorylase

Cat. No. NATE-1908

Lot. No. (See product label)

Introduction

Description	Polynucleotide phosphorylase (PNPase) is a bifunctional enzyme with a phosphorolytic 3' to 5' exoribonuclease activity and a 3'-terminal oligonucleotide polymerase activity. It is also involved in mRNA processing and degradation in bacteria, plants, and humans.
Applications	The enzyme is useful for the preparation of polyribonucleotide.
Synonyms	PNPase; nucleoside diphosphate:polynucleotidyl transferase; polyribonucleotide nucleotidyltransferase; polynucleotide phosphorylase; polyribonucleotide phosphorylase; EC 2.7.7.8; 9014-12-4

Product Information

Source	Bacillus stearothermophilus
Appearance	Lyophilized
EC Number	EC 2.7.7.8
CAS No.	9014-12-4
Molecular Weight	300,000 - 340,000; Subunit molecular weight : ca. 85,000.
Specific Activity	more than 2,000 U/mg protein
Isoelectric point	4
pH Stability	9.0 - 11.0
Optimum pH	9.0 - 9.5
Thermal stability	No detectable decrease in activity up to 55 °C.
Michaelis Constant	(38 mM Tris-HCl buffer, pH 9.5, at 60 °C) Poly A: 0.27 mM**; KH2PO4: 3.0 mM; **concentration of poly A was calculated as AMP concentration.
Unit Definition	One unit of activity is defined as the amount of PNPase that forms 1 μmol of ADP per hour at 60 °C by depolymerizing of Poly A.
Reaction	RNAn+1 + Pi ←→ RNAn + Nucleoside diphosphate
Notes	Effectors: cations and anions.

Storage and Shipping Information

Storage	Stable at -20 °C for at least one year.