Creative Enzymes®

Phosphatase from Escherichia coli, Recombinant

Cat. No. NATE-1226

Lot. No. (See product label)

Introduction

Description	A phosphatase is an enzyme that removes a phosphate group from its substrate by hydrolysing phosphoric acid monoesters into a phosphate ion and a molecule with a free hydroxyl group (see dephosphorylation). This action is directly opposite to that of phosphorylases and kinases, which attach phosphate groups to their substrates by using energetic molecules like ATP. A common phosphatase in many organisms is alkaline phosphatase. Another large group of proteins present in archaea, bacteria, and eukaryote exhibits deoxyribonucleotide and ribonucleotide phosphatase or pyrophosphatase activities that catalyse the decomposition of dNTP/NTP into dNDP/NDP and a free phosphate ion or dNMP/NMP and a free pyrophosphate ion. The other group of phosphatase is collectively called as protein phosphatase, which removes a phosphate group from the phosphorylated amino acid residue of the substrate protein. Protein phosphorylation is a common posttranslational modification of protein catalyzed by protein kinases, and protein phosphatases reverse the effect.
Synonyms	HAD2

Product Information

Source	Escherichia coli str. K-12 substr. MG1655
Form	Supplied in 3.2 M ammonium sulphate
EC Number	EC 3.1.3.-
Molecular Weight	26827.7 Da
Purity	>95 % as judged by SDS-PAGE
Activity	1.905 U/mg
Concentration	13.54 U/ml
Optimum pH	5
Optimum temperature	> 40°C
Unit Definition	One unit is defined as the amount of enzyme required to release 1μmol of pNP per minute from pNP-phosphate (16.9 mM) in 42.4 mM sodium acetate buffer, pH 5.0, containing 6.8 mM MgCl2, at 40°C, and using an extinction coefficient of 18000 M-1cm-1.

Usage and Packaging

Preparation Instructions	Agitate vial sufficiently to fully homogenise enzyme precipitate before use.

Storage and Shipping Information

Storage	Store at 4°C (shipped at room temperature)