Creative Enzymes®

YOP Protein Tyrosine Phosphatase from Yersinia enterocolitica, Recombinant

Cat. No. NATE-0642

Lot. No. (See product label)

Introduction

Description Protein tyrosine phosphatases are a group of enzymes that remove phosphate groups from phosphorylated tyrosine residues on proteins. Protein tyrosine (pTyr) phosphorylation is a common post-translational modification that can create novel recognition motifs for protein interactions and cellular localization, affect protein stability, and regulate enzyme activity. As a consequence, maintaining an appropriate level of protein tyrosine phosphorylation is essential for many cellular functions. Tyrosine-specific protein phosphatases (PTPase; EC 3.1.3.48) catalyse the removal of a phosphate group attached to a tyrosine residue, using a cysteinyl-phosphate enzyme intermediate. These enzymes are key regulatory components in signal transduction pathways (such as the MAP kinase pathway) and cell cycle control, and are important in the control of cell growth, proliferation, differentiation, transformation, and synaptic strengthening.

Applications Used to release phosphate groups specifically from phosphotyrosine residues in proteins.

Synonyms YOP Protein Tyrosine Phosphatase; Protein tyrosine phosphatase; Tyrosine-specific protein phosphatases; PTPase

Product Information

Species Yersinia enterocolitica

Source E. coli

Form buffered aqueous glycerol solution

Activity > 50,000 unit/mL

Buffer Solution in 50 mM HEPESl, pH 7.0, at 25°C, 100 mM NaCl, 5 mM DTT, 0.01% Brij 35, 50% glycerol, and 2 mM Na2EDTA.

Unit Definition One unit is defined as the amount of enzyme that hydrolyzes 1 nmol of p-nitrophenyl phosphate (50 mM) in 1 minute at 30°C in a total reaction volume of 50 µl.

Storage and Shipping Information

Stability −20°C