

## 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 HEPESI, 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 $\mu$ l.
Storage and Shipping Information	

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Stability –20°C