

Recombinant Rat Ptpn1, GST-tagged

Cat. No. Ptpn1-456R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rat Protein tyrosine phosphatase, Catalytic domain, (a.a. 1-321), with N-terminal GST tag expressed in an <i>E.coli</i> expression system. MW= 63.3 kDa.
Species	Rat
Source	E.coli
ProteinLength	1-321 a.a.
Description	Tyrosine-protein phosphatase non-receptor type 1 is an enzyme that in humans is encoded by the PTPN1 gene. The protein encoded by this gene is the founding member of the protein tyrosine phosphatase (PTP) family, which was isolated and identified based on its enzymatic activity and amino acid sequence. PTPs catalyze the hydrolysis of the phosphate monoesters specifically on tyrosine residues. Members of the PTP family share a highly conserved catalytic motif, which is essential for the catalytic activity. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. This PTP has been shown to act as a negative regulator of insulin signaling by dephosphorylating the phosphotyrosine residues of insulin receptor kinase. This PTP was also reported to dephosphorylate epidermal growth factor receptor kinase, as well as JAK2 and TYK2 kinases, which implicated the role of this PTP in cell growth control, and cell response to interferon stimulation.
Purity	>95% by SDS-PAGE.

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

Formulation	25 mM Tris-HCl, pH 8.0, 75 mM NaCl, 0.05% Tween-20, 50% glycerol, 1 mM DTT and 50% glycerol. Liquid at – 20°C.
Stability	>6 months at –80°C.
GENE INFORMATION	
Gene Name	Ptpn1 protein tyrosine phosphatase, non-receptor type 1 [Rattus norvegicus]
Synonyms	Ptpn1; protein tyrosine phosphatase, non-receptor type 1; Ptp; MGC93562; EC 3.1.3.48; Protein-tyrosine phosphatase
Gene ID	24697
mRNA Refseq	NM_012637
Protein Refseq	NP_036769
UniProt ID	P20417
Chromosome Location	3q42
Pathway	Adherens junction; Insulin signaling pathway
Function	protein binding; hydrolase activity; protein tyrosine phosphatase activity; zinc ion binding; insulin receptor binding

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