

## Product Information

### PTP- $\beta$ , human recombinant, expressed in *E. coli* K12

Catalog Number **P9864**

Storage Temperature  $-70\text{ }^{\circ}\text{C}$

Synonym: Protein-tyrosine phosphatase- $\beta$

#### Product Description

PTP- $\beta$  dephosphorylates tyrosine-phosphorylated peptides and proteins. As a biological target, PTP- $\beta$  has emerged as playing a critical role in many cell signaling events. The enzyme is a nonreceptor protein tyrosine phosphatase localized to adherens, junctions, and focal adhesion complexes, and regulates both N-cadherin and  $\beta 1$ -integrin-mediated adhesion. PTP- $\beta$  was found to specifically dephosphorylate STAT5a and STAT5b in transfected COS-7 cells and *in vitro*. Nuclear translocation of STAT5a and STAT5b was largely inhibited upon over expression of PTP- $\beta$ .

Molecular mass:  $\sim 64.4\text{ kDa}$

This recombinant PTP- $\beta$  product is a full-length intracellular human PTP- $\beta$  cloned into the *Nhe I-Bgl II* sites of a pGEX2T vector and expressed in *E. coli* K12 UT5600. The GST-tagged enzyme is purified from *E. coli* lysate using glutathione-agarose beads. It is supplied in a solution of 40 mM Tris-HCl, pH 8.0, 110 mM NaCl, 2.2 mM KCl, 3 mM DTT, 16 mM glutathione, and 20% glycerol.

Purity:  $\geq 90\%$  (SDS-PAGE)

Specific activity:  $\geq 50\text{ nmole/min}/\mu\text{g}$

Unit definition: One unit will hydrolyze 1 nanomole of *p*-nitrophenyl phosphate per minute at pH 7.2 at  $37\text{ }^{\circ}\text{C}$ .

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

#### Storage/Stability

The product ships on dry ice and storage at  $-70\text{ }^{\circ}\text{C}$  is recommended.

The product remains active for at least 1 year at  $-70\text{ }^{\circ}\text{C}$  from date of shipment. For maximum recovery of product, centrifuge the vial briefly prior to removing the cap. Avoid freeze thaw cycles.

#### References

1. Charbonneau, H., and Tonks, N.K., 1002 protein phosphatases? *Ann. Rev. Cell. Biol.*, **8**, 463-493, (1992).
2. Wagman, A.S., and Nuss, J.M., Current therapies and emerging targets for the treatment of diabetes. *Curr. Pharm. Des.*, **7**, 417-450 (2001).
3. Pathre, P. et al., PTP1B regulates neurite extension mediated by cell-cell and cell-matrix adhesion molecules. *J. Neurosci. Res.*, **63**, 143-150 (2001).
4. Aoki, N., and Matsuda, T., A cytosolic protein-tyrosine phosphatase PTP1B specifically dephosphorylates and deactivates prolactin-activated STAT5a and STAT5b. *J. Biol. Chem.*, **275**, 39718-39726 (2000).

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