

# phospho-PTP1B (Ser-50) Peptide

Cat. # PX2415

Size 50 µg

## **Background:**

PTP1B is a nonreceptor type protein tyrosine phosphatase that has essential roles in insulin and leptin signaling, as well as important functions in growth factor and integrin signaling. The structure of PTP1B includes a conserved phosphatase domain, C-terminal hydrophobic residues for targeting to the cytoplasmic face of the endoplasmic reticulum, and proline-rich regions characteristic of SH3 domain binding motifs. PTP1B can interact with N-Cadherin and dephosphorylate  $\beta$ -catenin associated with cadherin complexes. PTP1B also interacts with Insulin and EGF receptors, and undergoes phosphorylation after receptor stimulation. Tyrosine phosphorylation at Tyr-66, Tyr-152, and Tyr-153 occurs after insulin receptor activation, and tyrosine phosphorylation of Tyr-152 may be required for interactions with N-Cadherin. In addition, Akt can phosphorylate Ser-50 and this phosphorylation can reduce PTP1B activity.

## **References**

- Bandyopadhyay, D. et al. (1997) J. Biol. Chem. 272(3):1639.  
Rhee, J. et al. (2001) J. Biol. Chem. 276(9):6640.  
Lingamanaidu, V. et al. (2001) Molecular Endocrinology 15(10):1768.

## **Peptide Sequence:**

Phospho-PTP1B (Ser-50) synthetic peptide corresponds to amino acids surrounding Ser-50 in human PTP1B. This sequence has significant homology to the conserved site in rat and mouse PTP1B, and has homology to conserved sites in TC-PTP and MPTP, but not other protein tyrosine phosphatase family members.

## **Buffer and Storage:**

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.  
Store at -20°C. Stable for 1 year.

## **Applications:**

Blocking 1:1000

ELISA 50 ng/well

End user should determine optimal concentration dependent on the concentration of the antibody.  
Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.  
ELISA established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

## **Specificity:**

This peptide is specifically recognized by PTP1B (Ser-50) phospho-specific antibody (PP2411) in ELISA, and has been shown to block the reactivity of PP2411 in Western blot and is recommended for blocking in immunocytochemistry.

## **Related Products:**

PP2411 PTP1B (Ser-50) Rabbit Polyclonal

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