

# PTP1B (a.a.146-157) Peptide

Cat. # PX2355

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:**

PTP1B synthetic peptide corresponds to amino acids 146 to 157 in human PTP1B. This sequence has significant homology to the conserved site in rat and mouse PTP1B, and has homology to 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 (a.a. 146-157) antibody (PP2351) in ELISA, and has been shown to block the reactivity of PP2351 in Western blot and is recommended for blocking in immunocytochemistry.

## **Related Products:**

PP2351 PTP1B (a.a.146-157) Rabbit Polyclonal

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