

PTP1B (Ser-50)

Cat. # PP2411

Host Rabbit Polyclonal

Size 100 µl

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 β -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.

Immunogen:

PTP1B (Ser-50) synthetic peptide (coupled to carrier protein) 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.

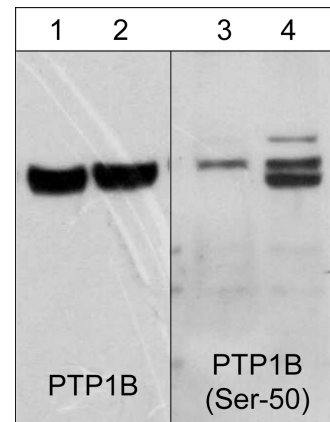
Applications:

WB 1:1000
ELISA 1:2000

End user should determine optimal dilution for their particular applications and experiments. Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Related Products:

PP2351 PTP1B (a.a.146-157) Rabbit Polyclonal
PP2391 PTP1B (Tyr-152) Rabbit Polyclonal
SM1601 SHP1 (C-terminal Region) Mouse Monoclonal
SP1531 SHP1 (Ser-591), phospho-specific Rabbit Polyclonal
SP1571 SHP1 (Tyr-536), phospho-specific Rabbit Polyclonal
SM1631 SHP2 (N-terminal Region) Mouse Monoclonal



Western blot image of human Jurkat cells untreated (lanes 1 & 3) or treated (lanes 2 & 4) with calyculin A (100 nM for 30 min.). The blots were probed with mouse monoclonal anti-PTP1B (lanes 1 & 2) or rabbit polyclonal anti-PTP1B (Ser-50) (lanes 3 & 4).

Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100 µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Do not aliquot. Stable for 1 year.

Specificity:

This antibody was affinity purified with phospho-PTP1B (Ser-50) peptide. The purified antibody detects a 50 kDa* doublet corresponding to PTP1B in western blots of calyculin A treated human A431 and Jurkat cells. This reactivity is observed as a weak singlet in control cells and is not observed after lambda phosphatase treatment.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

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