

PTP1B (Tyr-152)

Cat. # PP2391

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 (Tyr-152) synthetic peptide corresponds to amino acids surrounding Tyr-152 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:

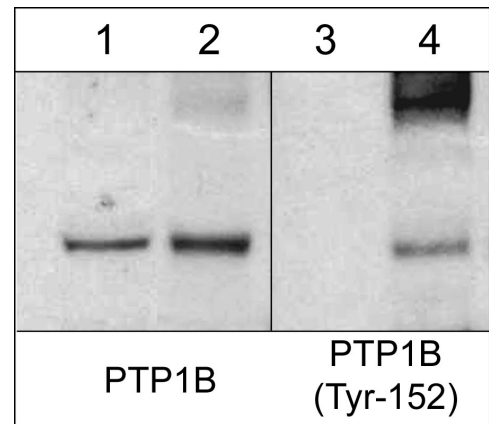
WB 1:1000
ELISA 1:2000

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
PP2411 PTP1B (Ser-50) 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

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Western blot image of mouse SYF cSrc-transformed cells untreated (lanes 1 & 3) or treated (lanes 2 & 4) with pervanadate (1 mM for 30 min.). The blots were probed with rabbit polyclonal anti-PTP1B (a.a. 146-157) (lanes 1 & 2) or anti-PTP1B (Tyr-152) (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 cross-adsorbed to a phospho-tyrosine peptide then affinity purified with phospho-PTP1B (Tyr-152) peptide. The purified antibody detects a 50 kDa* band corresponding to PTP1B in western blots of pervanadate treated human A431 and Jurkat, as well as mouse SYF cells. This reactivity is not observed in control cells or after alkaline phosphatase treatment of blots.

*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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