

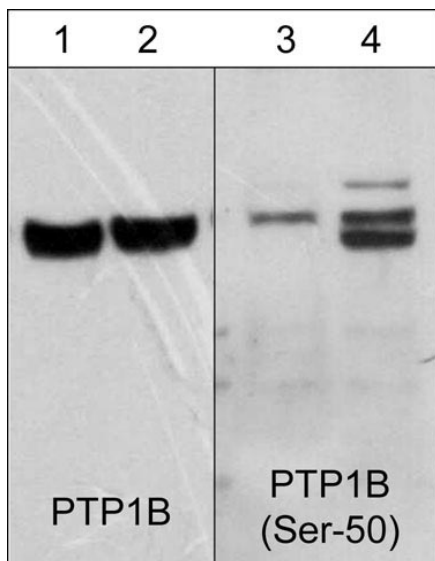
### Kit Summary

The PTP1B phospho-regulation antibody sampler kit can be used to detect phosphorylation of PTP1B at Ser-50 and Tyr-152. The kit also includes an antibody to examine total PTP1B expression levels and secondary reagents for rabbit polyclonal and mouse monoclonal antibody detection.

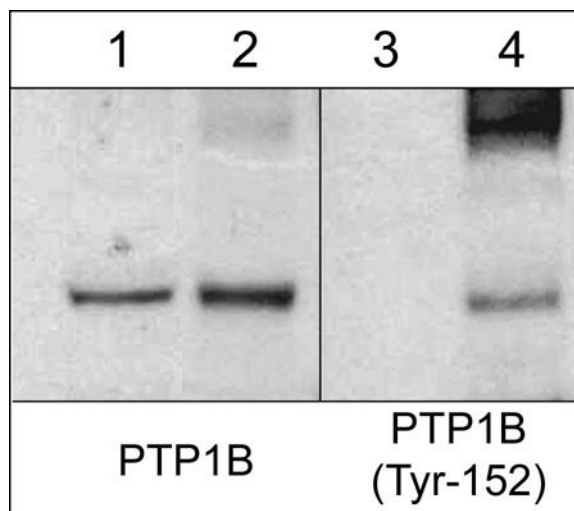
### Kit Components

Cat. #	Description	Product Type	Size	Applications	Species Reactivity	WB Dilution
PM2341	PTP1B (C-terminal region)	Mouse mAb	50 µl	WB, E, ICC	Hu	1:1000
PP2351	PTP1B (a.a.146-157)	Rabbit pAb	50 µl	WB, E, ICC	Hu, Rt, Ms	1:1000
PP2411	PTP1B (Ser-50), phospho-specific	Rabbit pAb	50 µl	WB, E, ICC	Hu, Rt, Ms	1:1000
PP2391	PTP1B (Tyr-152), phospho-specific	Rabbit pAb	50 µl	WB, E	Hu, Rt, Ms	1:1000
MS3001	Anti-Mouse Ig:HRP	Donkey pAb	100 µl	WB, E	Ms	1:5000
RS3251	Anti-Rabbit Ig Light-Chain Specific:HRP	Mouse mAb	100 µl	WB, E, ICC, IHC	Rb	1:5000

Applications: WB = Western blot, E = ELISA, ICC = Immunocytochemistry, IP = Immunoprecipitation, IHC = Immunohistochemistry, FC = Flow Cytometry  
Species: H = Human, R = Rat, Ms = Mouse, C = Chicken, F = Fish, Fr = Frog, Rb = Rabbit



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 monoclonal anti-PTP1B (lanes 1 & 2) or polyclonal anti-PTP1B (Ser-50) (lanes 3 & 4).



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).

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## 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.

## Background References

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

## Buffer and Storage

Mouse monoclonal and rabbit polyclonal antibodies are supplied in phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. The secondary reagents are supplied in the same buffer without azide. Store all at  $-20^{\circ}\text{C}$ . Stable for 1 year.

## Product Citations

<u>Cat. #</u>	<u>Citation &amp; Application</u>
PM2341	Dyballa-Rukes, N et al. (2017) <i>Antiox Redox Sig</i> 26(12):616. (WB: human endothelial cells)
PP2351	Nguyen, TD et al. (2018) <i>J Am Heart Assoc.</i> 7(13)pii:e008865. (WB: rat heart)
PP2351	Li, X. et al. (2017) <i>Sci Rep.</i> 7(1):6444. (WB: mouse mast cells)
PP2351	Obanda, D. et al. (2012) <i>Diabetes</i> 61(3):597. (WB: L6 myoblasts)
PP2411	Obanda, D. et al. (2012) <i>Diabetes</i> 61(3):597. (WB: L6 myoblasts)
MS3001	Estrada-Bernal, A. et al. (2011) <i>J Neurooncol.</i> 102:353. (Western blot: MDCK epithelial, A549, and HEK293)
RS3251	Kawasaki, H. et al. (2013) <i>World J Gastroenter.</i> 19(17):2629. (WB, ICC: mouse intestinal myofibroblasts and
RS3251	Estrada-Bernal, A. et al. (2011) <i>J Neurooncol.</i> 102:353. (Western blot)

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