

# PTP1B Antibody (N-terminal)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP8411C

## Product Information

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<b>Application</b>	WB, E
<b>Primary Accession</b>	<a href="#">P18031</a>
<b>Other Accession</b>	<a href="#">P20417</a> , <a href="#">P35821</a> , <a href="#">NP_002818</a>
<b>Reactivity</b>	Mouse, Rat, Human
<b>Predicted</b>	Mouse, Rat
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Calculated MW</b>	49967
<b>Antigen Region</b>	23-53

## Additional Information

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<b>Gene ID</b>	5770
<b>Other Names</b>	Tyrosine-protein phosphatase non-receptor type 1, Protein-tyrosine phosphatase 1B, PTP-1B, PTPN1, PTP1B
<b>Target/Specificity</b>	This PTP1B antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 23-53 amino acids from the N-terminal region of human PTP1B.
<b>Dilution</b>	WB~~1:1000 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	PTP1B Antibody (N-terminal) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	PTPN1
<b>Synonyms</b>	PTP1B
<b>Function</b>	Tyrosine-protein phosphatase which acts as a regulator of endoplasmic

reticulum unfolded protein response. Mediates dephosphorylation of EIF2AK3/PERK; inactivating the protein kinase activity of EIF2AK3/PERK. May play an important role in CKII- and p60c- src-induced signal transduction cascades. May regulate the EFNA5-EPHA3 signaling pathway which modulates cell reorganization and cell-cell repulsion. May also regulate the hepatocyte growth factor receptor signaling pathway through dephosphorylation of MET.

**Cellular Location**

Endoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side Note=Interacts with EPHA3 at the cell membrane

**Tissue Location**

Expressed in keratinocytes (at protein level).

## Background

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PTP1B is the founding member of the protein tyrosine phosphatase (PTP) family, which was isolated and identified based on its enzymatic activity and amino acid sequence. PTPs catalyze the hydrolysis of the phosphate monoesters specifically on tyrosine residues. Members of the PTP family share a highly conserved catalytic motif, which is essential for the catalytic activity. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. This PTP has been shown to act as a negative regulator of insulin signaling by dephosphorylating the phosphotyrosine residues of insulin receptor kinase. This PTP was also reported to dephosphorylate epidermal growth factor receptor kinase, as well as JAK2 and TYK2 kinases, which implicated the role of this PTP in cell growth control, and cell response to interferon stimulation.

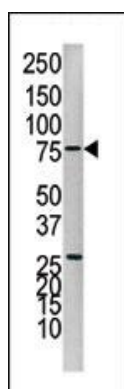
## References

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Xu, J., et al., Biochem. Biophys. Res. Commun. 329(2):538-543 (2005).  
Palmer, N.D., et al., Diabetes 53(11):3013-3019 (2004).  
Bento, J.L., et al., Diabetes 53(11):3007-3012 (2004).  
Wiesmann, C., et al., Nat Struct Mol Biol 11(8):730-737 (2004).  
Kipfer-Coudreau, S., et al., Diabetologia 47(7):1278-1284 (2004).

## Images

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Western blot analysis of anti-PTP1B Pab (Cat. #AP8411c) in Jurkat cell line lysate. PTP1B (arrow) was detected using the purified Pab.

## Citations

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- [Calpain-mediated degradation of reversibly oxidized protein-tyrosine phosphatase 1B.](#)