10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PTP1B Antibody (N-terminal)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8411C

Product Information

Application	WB, E
Primary Accession	P18031
Other Accession	P20417, P35821, NP_002818
Reactivity	Mouse, Rat, Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	49967
Antigen Region	23-53

Additional Information

Gene ID	5770
Other Names	Tyrosine-protein phosphatase non-receptor type 1, Protein-tyrosine phosphatase 1B, PTP-1B, PTPN1, PTP1B
Target/Specificity	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.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	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.
Storage	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.
Precautions	PTP1B Antibody (N-terminal) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PTPN1
Synonyms	PTP1B
Function	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).

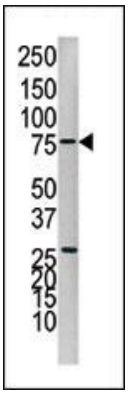
Background

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 phosphotryosine 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

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



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

Citations

- Calpain-mediated degradation of reversibly oxidized protein-tyrosine phosphatase 1B.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.