PTP1B Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	PTP1B, Polyclonal Antibody
Full Product Name	PTP1B Polyclonal Conjugated Antibody
Product Gene Name	anti-PTP1B antibody
Product Synonym Names	PTPN1; PTP1B; Tyrosine-protein phosphatase non-receptor type 1; Protein-tyrosine phosphatase 1B; PTP-1B
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Mouse, Rat, Monkey
Form/Format	0.01M Sodium Phosphate, 0.25M NaCl, pH 7.6, 5mg/ml Bovine Serum Albumin, 0.02% Sodium Azide
Specificity	PTP1B polyclonal antibody detects endogenous levels of PTP1B protein.
Preparation and Storage	Store at 4 degree C for 6 months.
Molecular Weight	49,967 Da
Chromosome Location	Chromosome: 20; NC_000020.10 (49126891..49201088). Location: 20q13.1-q13.2
OMIM	176885
3D Structure	ModBase 3D Structure for P18031
Immunogen	Synthesized peptide derived from human PTP1B around the non-phosphorylation site of S50.
Conjugation	Biotin AF350 AF405 AF488 AF555 AF594 AF647 AF680 AF750
Excitation Emission	AF350: 346nm/442nm
Applications Tested/Suitable for anti-PTP1B antibody	Most Applications
Application Notes for anti-PTP1B antibody	Suggested Dilution: AF350 conjugated: most applications: 1:50-1:250 AF405 conjugated: most applications: 1:50-1:250 AF488 conjugated: most applications: 1:50-1:250 AF555 conjugated: most applications: 1:50-1:250 AF594 conjugated: most applications: 1:50-1:250 AF647 conjugated: most applications: 1:50-1:250 AF680 conjugated: most applications: 1:50-1:250 AF750 conjugated: most applications: 1:50-1:250 Biotin conjugated: working with enzyme-conjugated streptavidin, most applications: 1:50-1:1000
Related Product Information for anti-PTP1B antibody	MBS9450059 is an antibody targeting PTP1B. Also known as PTP1B Polyclonal Conjugated Antibody. Reactive in Human, Mouse, Rat, Monkey. Host: Rabbit.
Other Notes	Small volumes of anti-PTP1B antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PTP1B. It may not necessarily be applicable to this product.

NCBI GI #	4506289
NCBI GeneID	5770
NCBI Accession #	NP_002818.1
UniProt Primary Accession #	P18031
UniProt Secondary Accession #	Q5TGD8; Q9BQV9; Q9NQQ4
UniProt Related Accession #	P18031
GenBank Nucleotide #	NM_002827.2
NCBI Official Full Name	tyrosine-protein phosphatase non-receptor type 1
NCBI Official Synonym Full Names	protein tyrosine phosphatase, non-receptor type 1
NCBI Official Symbol	PTPN1
NCBI Official Synonym Symbols	PTP1B
UniProt Protein Name	Tyrosine-protein phosphatase non-receptor type 1
UniProt Synonym Protein Names	Protein-tyrosine phosphatase 1B
UniProt Gene Name	PTPN1
UniProt Synonym Gene Names	PTP1B; PTP-1B
UniProt Entry Name	PTN1_HUMAN
NCBI Protein Information	tyrosine-protein phosphatase non-receptor type 1; protein tyrosine phosphatase 1B; protein-tyrosine phosphatase 1B; protein tyrosine phosphatase, placental
NCBI Summary for PTP1B	The protein encoded by this gene 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. [provided by RefSeq, Jul 2008]

UniProt Comments for PTP1B	PTP1B: a non-receptor phospho-tyrosine protein phosphatase which acts as a regulator of endoplasmic reticulum unfolded protein response. Mediates dephosphorylation and inactivation of 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. Negatively regulates insulin signaling by dephosphorylating the phosphotyrosine residues of insulin receptor. Also reported to dephosphorylate integrin, epidermal growth factor receptor, JAK2 and TYK2, regulating cell growth control and the cellular response to interferon. May regulate the hepatocyte growth factor receptor signaling pathway through dephosphorylation of MET. PTP1B knockout mice show resistance to dietary weight gain and enhanced insulin sensitivity, suggesting a possible role in treatment of obesity as well as type 2 diabetes. Protein type: Protein phosphatase, tyrosine (non-receptor); Phosphatase; EC 3.1.3.48; Motility/polarity/chemotaxis Chromosomal Location of Human Ortholog: 20q13.1-q13.2 Cellular Component: endoplasmic reticulum; early endosome; plasma membrane; cytoplasmic vesicle; cytosol Molecular Function: protein binding; enzyme binding; ephrin receptor binding; zinc ion binding; protein tyrosine phosphatase activity; receptor tyrosine kinase binding; protein kinase binding; insulin receptor binding Biological Process: platelet activation; unfolded protein response, activation of signaling protein activity; negative regulation of vascular endothelial growth factor receptor signaling pathway; unfolded protein response; cytokine and chemokine mediated signaling pathway; regulation of endocytosis; actin cytoskeleton reorganization; insulin receptor signaling pathway; regulation of signal transduction; negative regulation of insulin receptor signaling pathway; blood coagulation Disease: Diabetes Mellitus, Noninsulin-dependent
Research Articles on PTP1B	**1.** COP1 physically interacted with PTP1B and suppressed PTP1B phosphatase activity as well as the association of PTP1B with IRbeta.
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