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Box 1 | Basic Info

Cat. No.	ABP-PAB-01089
Animal ID	RC40104
Host	Chicken
Reactivity	Human
Format	Purified
Accession number	NM_002827
Amount	100 µg

Alternative Name(s): PTP1B, protein tyrosine phosphatase 1B, non-receptor tyrosine phosphatase 1, placental protein tyrosine phosphatase

PTPN1, tyrosine phosphatase, non-receptor type 1 polyclonal antibody

Non-receptor type 1 protein tyrosine phosphatase (PTPN1) 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 de-phosphorylating the phosphotyrosine residues of insulin receptor kinase. This PTP was also reported to de-phosphorylate 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.

Buffers

Purified rabbit polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column and eluted out with both high and low pH buffers and neutralized immediately after elution then followed by dialysis against PBS.

Immunogen

Partial protein comprised of amino acids 1 - 126 of the human tyrosine phosphatase non-receptor type 1 (PTPN1) protein.

Application:

Tested by peptide-specific ELISA (1:1,000). Storage

Storage:

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C. Avoid repeated freeze-thaw cycles.

References:

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2. Myers MP, Andersen JN, Cheng A, Tremblay ML, Horvath CM, Parisien JP, Salmeen A, Barford D, Tonks NK: TYK2 and JAK2 are substrates of protein-tyrosine phosphatase 1B. *J. Biol. Chem.* 276(51): 47771-47774 (2001).
3. Charbonneau H, Tonks NK, Kumar S, Diltz CD, Harrylock M, Cool DE, Krebs EG, Fischer EH, Walsh KA: Human placenta protein-tyrosine-phosphatase: amino acid sequence and relationship to a family of receptor-like proteins. *Proc. Natl. Acad. Sci. U S A.* 86(14): 5252-5256 (1989).
4. Dadke S, Kusari A, Kusari J: Phosphorylation and activation of protein tyrosine phosphatase (PTP) 1B by insulin receptor. *Mol. Cell. Biochem.* 221(1-2): 147-154 (2001).
5. Brown-Shimer S, Johnson KA, Lawrence JB, Johnson C, Bruskin A, Green NR, Hill DE: Molecular cloning and chromosome mapping of the human gene encoding protein phosphotyrosyl phosphatase 1B. *Proc. Natl. Acad. Sci. U S A.* 87(13): 5148-5152 (1990).
6. Chernoff J, Schievella AR, Jost CA, Erikson RL, Neel BG: Cloning of a cDNA for a major human protein-tyrosinephosphatase. *Proc. Natl. Acad. Sci. U S A.* 87(7): 2735-2739 (1990).