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PTPN2 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13311b

Product Information

Application	WB, IHC-P, E
Primary Accession	P17706
Other Accession	NP_536347.1
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB33304
Calculated MW	48473
Antigen Region	329-358

Additional Information

Gene ID	5771
Other Names	Tyrosine-protein phosphatase non-receptor type 2, T-cell protein-tyrosine phosphatase, TCPTP, PTPN2, PTPT
Target/Specificity	This PTPN2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 329-358 amino acids from the C-terminal region of human PTPN2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	PTPN2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PTPN2
Synonyms	PTPT

Function	Non-receptor type tyrosine-specific phosphatase that dephosphorylates receptor protein tyrosine kinases including INSR, EGFR, CSF1R, PDGFR. Also dephosphorylates non-receptor protein tyrosine kinases like JAK1, JAK2, JAK3, Src family kinases, STAT1, STAT3 and STAT6 either in the nucleus or the cytoplasm. Negatively regulates numerous signaling pathways and biological processes like hematopoiesis, inflammatory response, cell proliferation and differentiation, and glucose homeostasis. Plays a multifaceted and important role in the development of the immune system. Functions in T- cell receptor signaling through dephosphorylation of FYN and LCK to control T-cells differentiation and activation. Dephosphorylates CSF1R, negatively regulating its downstream signaling and macrophage differentiation. Negatively regulates cytokine (IL2/interleukin-2 and interferon)-mediated signaling through dephosphorylation of the cytoplasmic kinases JAK1, JAK3 and their substrate STAT1, that propagate signaling downstream of the cytokine receptors. Also regulates the IL6/interleukin-6 and IL4/interleukin-4 cytokine signaling through dephosphorylation of STAT3 and STAT6 respectively. In addition to the immune system, it is involved in anchorage-dependent, negative regulation of EGF-stimulated cell growth. Activated by the integrin ITGA1/ITGB1, it dephosphorylates EGFR and negatively regulates EGF signaling. Dephosphorylates PDGFRB and negatively regulates platelet-derived growth factor receptor-beta signaling pathway and therefore cell proliferation. Negatively regulates tumor necrosis factor-mediated signaling downstream via MAPK through SRC dephosphorylation. May also regulate the hepatocyte growth factor receptor signaling pathway through dephosphorylation of the hepatocyte growth factor receptor MET. Also plays an important role in glucose homeostasis. For instance, negatively regulates the insulin receptor signaling pathway through the dephosphorylation of INSR and control gluconeogenesis and liver glucose production through negative regulation of the IL6 signaling pathways. May also bind DNA.
Cellular Location	[Isoform 1]: Endoplasmic reticulum. Endoplasmic reticulum-Golgi intermediate compartment. Note=Targeted to the endoplasmic reticulum by its C-terminal hydrophobic region
Tissue Location	Ubiquitously expressed. Isoform 2 is probably the major isoform. Isoform 1 is expressed in T-cells and in placenta

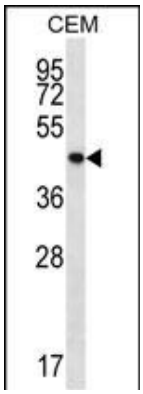
Background

The protein encoded by this gene is a member of the protein tyrosine phosphatase (PTP) family. 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. Epidermal growth factor receptor and the adaptor protein Shc were reported to be substrates of this PTP, which suggested the roles in growth factor mediated cell signaling. Three alternatively spliced variants of this gene, which encode isoforms differing at their extreme C-termini, have been described. The different C-termini are thought to determine the substrate specificity, as well as the cellular localization of the isoforms. Two highly related but distinctly processed pseudogenes that localize to distinct chromosomes have been reported. [provided by RefSeq].

References

Scharl, M., et al. Am. J. Physiol. Gastrointest. Liver Physiol. 299 (4), G935-G945 (2010) :
Morgan, A.R., et al. Tissue Antigens 76(2):119-125(2010)
Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :
Kleppe, M., et al. Nat. Genet. 42(6):530-535(2010)
Amre, D.K., et al. Aliment. Pharmacol. Ther. 31(11):1186-1191(2010)

Images



PTPN2 Antibody (C-term) (Cat. #AP13311b) western blot analysis in CEM cell line lysates (35ug/lane).This demonstrates the PTPN2 antibody detected the PTPN2 protein (arrow).



PTPN2 Antibody (C-term) (Cat. #AP13311b)immunohistochemistry analysis in formalin fixed and paraffin embedded human placenta tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of PTPN2 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

Citations

- Protein Tyrosine Phosphatase Nonreceptor Type 2 (PTPN2), an Important Regulator of IL-6 Production in Rheumatoid Arthritis Synovial Fibroblasts.

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