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PTPN1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1969a

Product Information

Application	WB, E
Primary Accession	P18031
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4F8F2
Isotype	IgG2b
Calculated MW	49967
Description	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. Two transcript variants encoding different isoforms have been found for this gene.
Immunogen	Purified recombinant fragment of human PTPN1 (AA: 40-246) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	5770
Other Names	Tyrosine-protein phosphatase non-receptor type 1, 3.1.3.48, Protein-tyrosine phosphatase 1B, PTP-1B, PTPN1, PTP1B
Dilution	WB~~1/500 - 1/2000 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PTPN1 Antibody 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

This gene is expressed ubiquitously with higher levels in fetal than in adult tissues. It encodes a protein sharing 93% sequence identity with the mouse protein. Wolf-Hirschhorn syndrome (WHS) is a malformation syndrome associated with a hemizygous deletion of the distal short arm of chromosome 4. This gene is mapped to the 165 kb WHS critical region, and may play a role in the phenotype of the WHS or Pitt-Rogers-Danks syndrome. The encoded protein is found to be capable of reacting with HLA-A2-restricted and tumor-specific cytotoxic T lymphocytes, suggesting a target for use in specific immunotherapy for a large number of cancer patients. This protein has also been shown to be a member of the NELF (negative elongation factor) protein complex that participates in the regulation of RNA polymerase II transcription elongation. ; ;

References

1. Med Oncol. 2012 Jun;29(2):948-56. 2. Cell Biol Int. 2010 Jul;34(7):747-53.

Images

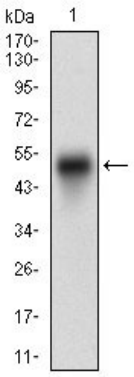
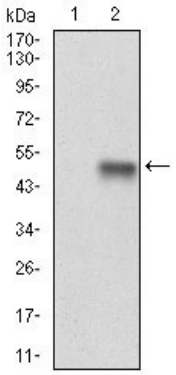


Figure 1: Western blot analysis using PTPN1 mAb against human PTPN1 (AA: 40-246) recombinant protein. (Expected MW is 50 kDa)

Figure 2: Western blot analysis using PTPN1 mAb against HEK293 (1) and PTPN1 (AA: 40-246)-hIgGFc transfected HEK293 (2) cell lysate.



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