

**TCPTP Antibody (C-term K369) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP8431b****Specification**

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**TCPTP Antibody (C-term K369) Blocking Peptide - Product Information**Primary Accession [P17706](#)**TCPTP Antibody (C-term K369) Blocking Peptide - Additional Information****Gene ID** 5771**Other Names**

Tyrosine-protein phosphatase non-receptor type 2, T-cell protein-tyrosine phosphatase, TCPTP, PTPN2, PTPT

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP8431b](/product/products/AP8431b) was selected from the C-term region of human TCPTP. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

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

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**TCPTP Antibody (C-term K369) Blocking Peptide - 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

### **TCPTP Antibody (C-term K369) Blocking Peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

### **TCPTP Antibody (C-term K369) Blocking Peptide - Images**

### **TCPTP Antibody (C-term K369) Blocking Peptide - Background**

TCPTP 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 the 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.

### **TCPTP Antibody (C-term K369) Blocking Peptide - References**

Dupuis, M., et al., J. Immunol. 171(2):726-732 (2003).Galic, S., et al., Mol. Cell. Biol. 23(6):2096-2108 (2003).ten Hoeve, J., et al., Mol. Cell. Biol. 22(16):5662-5668 (2002).Yamamoto, T., et al., Biochem. Biophys. Res. Commun. 297(4):811-817 (2002).Zhu, W., et al., J. Biol. Chem. 277(39):35787-35790 (2002).