

**STEP / PTPN5 Antibody (N-Term) Blocking peptide**  
**Synthetic peptide**  
**Catalog # BP8430a**

**Specification**

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**STEP / PTPN5 Antibody (N-Term) Blocking peptide - Product Information**

Primary Accession [P54829](#)

**STEP / PTPN5 Antibody (N-Term) Blocking peptide - Additional Information**

**Gene ID** 84867

**Other Names**

Tyrosine-protein phosphatase non-receptor type 5, Neural-specific protein-tyrosine phosphatase, Striatum-enriched protein-tyrosine phosphatase, STEP, PTPN5

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP8430a](/product/products/AP8430a) was selected from the N-term region of human STEP. 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.

**STEP / PTPN5 Antibody (N-Term) Blocking peptide - Protein Information**

**Name** PTPN5

**Function**

May regulate the activity of several effector molecules involved in synaptic plasticity and neuronal cell survival, including MAPKs, Src family kinases and NMDA receptors.

**Cellular Location**

Endoplasmic reticulum membrane; Multi-pass membrane protein

**STEP / PTPN5 Antibody (N-Term) Blocking peptide - Protocols**

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

- [Blocking Peptides](#)

**STEP / PTPN5 Antibody (N-Term) Blocking peptide - Images****STEP / PTPN5 Antibody (N-Term) Blocking peptide - Background**

STEP (striatum-enriched phosphatase) is a neural-specific protein-tyrosine phosphatase, first isolated from the rat brain. The 537-amino acid predicted human protein as isolated from cDNA sequences is between 85 and 90% identical to the mouse and rat sequences. In rat neuronal cell cultures, glutamate-mediated activation of N-methyl-D-aspartate (NMDA) receptors leads to the rapid but transient phosphorylation of extracellular signal-related kinase-2 (ERK2). NMDA-mediated influx of calcium, activates the calcium-dependent phosphatase calcineurin and the resulting dephosphorylation and activation of STEP. STEP then inactivates ERK2 through tyrosine dephosphorylation and blocks translocation of the kinase to the nucleus. STEP plays a significant role in regulating the ERK activation and downstream signaling in neurons.

**STEP / PTPN5 Antibody (N-Term) Blocking peptide - References**

Ota, T., et al., Nat. Genet. 36(1):40-45 (2004). Li, X., et al., Genomics 28(3):442-449 (1995).