

**PTPIA2 beta Antibody (N-term) Blocking peptide**  
**Synthetic peptide**  
**Catalog # BP8427a****Specification**

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**PTPIA2 beta Antibody (N-term) Blocking peptide - Product Information**Primary Accession [Q92932](#)**PTPIA2 beta Antibody (N-term) Blocking peptide - Additional Information****Gene ID** 5799**Other Names**

Receptor-type tyrosine-protein phosphatase N2, R-PTP-N2, Islet cell autoantigen-related protein, IAR, ICAAR, Phogrin, PTPRN2, KIAA0387

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP8427a](/product/products/AP8427a) was selected from the N-term region of human PTPIA2beta . 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.

**PTPIA2 beta Antibody (N-term) Blocking peptide - Protein Information****Name** PTPRN2**Synonyms** KIAA0387**Function**

Plays a role in vesicle-mediated secretory processes. Required for normal accumulation of secretory vesicles in hippocampus, pituitary and pancreatic islets. Required for the accumulation of normal levels of insulin-containing vesicles and preventing their degradation. Plays a role in insulin secretion in response to glucose stimuli. Required for normal accumulation of the neurotransmitters norepinephrine, dopamine and serotonin in the brain. In females, but not in males, required for normal accumulation and secretion of pituitary hormones, such as luteinizing hormone (LH) and follicle-stimulating hormone (FSH) (By similarity). Required to maintain normal levels of renin expression and renin release (By similarity). May regulate catalytic active protein-tyrosine phosphatases such as PTPRA through dimerization (By similarity). Has

phosphatidylinositol phosphatase activity; the PIPase activity is involved in its ability to regulate insulin secretion. Can dephosphorylate phosphatidylinositol 4,5-bisphosphate (PI(4,5)P<sub>2</sub>), phosphatidylinositol 5-phosphate and phosphatidylinositol 3-phosphate (By similarity). Regulates PI(4,5)P<sub>2</sub> level in the plasma membrane and localization of cofilin at the plasma membrane and thus is indirectly involved in regulation of actin dynamics related to cell migration and metastasis; upon hydrolyzation of PI(4,5)P<sub>2</sub> cofilin is released from the plasma membrane and acts in the cytoplasm in severing F-actin filaments (PubMed:<a href="http://www.uniprot.org/citations/26620550" target="\_blank">26620550</a>).

#### **Cellular Location**

Cytoplasmic vesicle, secretory vesicle membrane {ECO:0000250|UniProtKB:P80560}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P80560}. Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane {ECO:0000250|UniProtKB:P80560}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P80560} Note=Predominantly found on dense-core secretory granules. Sorting to secretory granules in part is dependent of the N-terminal propeptide domain of the precursor and its interaction with CPE (By similarity) Transiently found at the cell membrane, when secretory vesicles fuse with the cell membrane to release their cargo. Is then endocytosed and recycled to secretory vesicles involving clathrin-dependent AP2- mediated endocytosis. Recycled via STX6- but not TTTGN1/TGN38- containing compartments (By similarity). {ECO:0000250|UniProtKB:P80560, ECO:0000250|UniProtKB:Q63475}

#### **Tissue Location**

Highest levels in brain and pancreas (PubMed:8954911, PubMed:8798755). Lower levels in trachea, prostate, stomach and spinal cord (PubMed:8798755).

### **PTPIA2 beta Antibody (N-term) Blocking peptide - Protocols**

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

- [Blocking Peptides](#)

### **PTPIA2 beta Antibody (N-term) Blocking peptide - Images**

### **PTPIA2 beta Antibody (N-term) Blocking peptide - Background**

PTPIA2beta is a member of the protein tyrosine phosphatase (PTP) family. 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 possesses an extracellular region, a single transmembrane region, and a single intracellular catalytic domain, and thus represents a receptor-type PTP. The catalytic domain of this PTP is most closely related to PTPRN/IA-2beta. This PTP and PTPRN are both found to be major autoantigens associated with insulin-dependent diabetes mellitus.

### **PTPIA2 beta Antibody (N-term) Blocking peptide - References**

Schmidli, R.S., et al., Autoimmunity 28(1):15-23 (1998).Li, Q., et al., Proc. Assoc. Am. Physicians 109(4):429-439 (1997).Cui, L., et al., J. Biol. Chem. 271(40):24817-24823 (1996).Kawasaki, E., et al., Biochem. Biophys. Res. Commun. 227(2):440-447 (1996).Smith, P.D., et al., Biochem. Biophys. Res. Commun. 229(2):402-411 (1996).