10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PTPIA2 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP8428a

Specification

PTPIA2 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q16849

PTPIA2 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 5798

Other Names
Receptor-type tyrosine-protein phosphatase-like N, R-PTP-N, Islet cell antigen 512, ICA 512, Islet cell autoantigen 3, PTP IA-2, PTPRN, ICA3, ICA512

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8428a was selected from the N-term region of human PTPIA2 . 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 Antibody (N-term) Blocking Peptide - Protein Information

Name PTPRN

Synonyms ICA3, ICA512

Function
Plays a role in vesicle-mediated secretory processes (PubMed:24843546). Required for normal accumulation of secretory vesicles in hippocampus, pituitary and pancreatic islets (By similarity). Required for the accumulation of normal levels of insulin- containing vesicles and preventing their degradation (PubMed:24843546). Plays a role in insulin secretion in response to glucose stimuli (PubMed:24843546). Required for normal accumulation of the neurotransmitters norepinephrine, dopamine and serotonin in the brain (By similarity). 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). Seems to lack intrinsic enzyme activity (By similarity). May regulate catalytic active protein-tyrosine phosphatases such as PTPRA through dimerization (By similarity).

Cellular Location
Membrane {ECO:0000250|UniProtKB:Q63259}; Single- pass type I membrane protein {ECO:0000250|UniProtKB:Q63259} Cytoplasmic vesicle, secretory vesicle membrane; Single-pass type I membrane protein. Perikaryon {ECO:0000250|UniProtKB:Q63259}. Cell projection, axon {ECO:0000250|UniProtKB:Q63259}. Synapse {ECO:0000250|UniProtKB:Q63259}. Cell membrane; Single-pass type I membrane protein {ECO:0000250|UniProtKB:Q63259}. Endosome {ECO:0000250|UniProtKB:Q63259}. Note=Detected on neuronal secretory vesicles, but not on synaptic vesicles. Colocalizes with insulin- containing secretory granules (PubMed:25561468). Primarily detected on secretory vesicle membranes. 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 via the Golgi apparatus membranes. {ECO:0000250|UniProtKB:Q63259, ECO:0000269|PubMed:25561468} [ICA512-cleaved cytosolic fragment]: Nucleus

Tissue Location
Expression is restricted to neuroendocrine cells. Found in pancreas, brain and pituitary.

PTPIA2 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

PTPIA2 Antibody (N-term) Blocking Peptide - Images

PTPIA2 Antibody (N-term) Blocking Peptide - Background

PTPIA2 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 catalytic domain, and thus represents a receptor-type PTP. This PTP was found to be an autoantigen that is reactive with insulin-dependent diabetes mellitus (IDDM) patient sera, and thus may be a potential target of autoimmunity in diabetes mellitus.

PTPIA2 Antibody (N-term) Blocking Peptide - References

Miao, D., et al., J. Autoimmun. 18(2):191-196 (2002).Cui, L., et al., J. Biol. Chem. 271(40):24817-24823 (1996).Lan, M.S., et al., DNA Cell Biol. 13(5):505-514 (1994).Rabin, D.U., et al., J. Immunol. 152(6):3183-3188 (1994).Mikulecky, M., et al., Biomed. Pharmacother. 55 Suppl 1, 106S-109S (2001).