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# PTPIA2 beta Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8427a

## Product Information

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| **Application** | WB, E |
| **Primary Accession** | Q92932 |
| **Reactivity** | Human |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB0597 |
| **Calculated MW** | 111271 |
| **Antigen Region** | 94-125 |

## Additional Information

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| **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** | This PTPIA2 beta antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 94-125 amino acids from the N-terminal region of human PTPIA2 beta. |
| **Dilution** | WB~~1:1000 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | PTPIA2 beta Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **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 |

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| | 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-biphosphate (PI(4,5)P2), phosphatidylinositol 5-phosphate and phosphatidylinositol 3-phosphate (By similarity). Regulates PI(4,5)P2 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 hydrolysis of PI(4,5)P2 cofilin is released from the plasma membrane and acts in the cytoplasm in severing F-actin filaments (PubMed:26620550). |
| **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:8798755, PubMed:8954911). Lower levels in trachea, prostate, stomach and spinal cord (PubMed:8798755). |

## Background

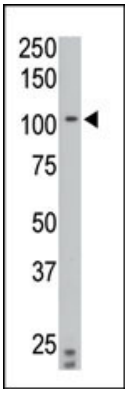
PTPIA2beta is a member of the protein tyrosine phosphatase (PTP) family. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. This PTP possesses an extracellular region, a single transmembrane 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.

## 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).

## Images

The anti-PTPIA2 beta N-term Pab (Cat. #AP8427a) is used




in Western blot to detect PTPIA2 beta in C6 cell lysate.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.