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PIP5K1C Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP14176b

Specification

PIP5K1C Antibody (C-term) Blocking Peptide - Product Information

Primary Accession O60331

PIP5K1C Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 23396

Other Names
Phosphatidylinositol 4-phosphate 5-kinase type-1 gamma, PIP5K1-gamma, PtdIns(4)P-5-kinase 1 gamma, Phosphatidylinositol 4-phosphate 5-kinase type I gamma, PIP5KIgamma, PIP5K1C, KIAA0589

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.

PIP5K1C Antibody (C-term) Blocking Peptide - Protein Information

Name PIP5K1C (HGNC:8996)

Synonyms KIAA0589

Function
Catalyzes the phosphorylation of phosphatidylinositol 4- phosphate (PtdIns(4)P/PI4P) to form phosphatidylinositol 4,5- bisphosphate (PtdIns(4,5)P2/PIP2), a lipid second messenger that regulates several cellular processes such as signal transduction, vesicle trafficking, actin cytoskeleton dynamics, cell adhesion, and cell motility (PubMed:12422219, PubMed:22942276). PtdIns(4,5)P2 can directly act as a second messenger or can be utilized as a precursor to generate other second messengers: inositol 1,4,5-trisphosphate (IP3), diacylglycerol (DAG) or phosphatidylinositol-3,4,5-trisphosphate (PtdIns(3,4,5)P3/PIP3) (Probable). PIP5K1A-mediated phosphorylation of PtdIns(4)P is the predominant pathway for PtdIns(4,5)P2 synthesis (By similarity). Together with PIP5K1A, is required for phagocytosis, both enzymes regulating different types of actin remodeling at sequential steps (By similarity). Promotes particle attachment by generating the pool of PtdIns(4,5)P2 that induces controlled actin depolymerization to facilitate Fc-gamma-R clustering. Mediates RAC1-dependent reorganization of actin filaments. Required for

synaptic vesicle transport (By similarity). Controls the plasma membrane pool of PtdIns(4,5)P2 implicated in synaptic vesicle endocytosis and exocytosis (PubMed:12847086). Plays a role in endocytosis mediated by clathrin and AP-2 (adaptor protein complex 2) (PubMed:12847086). Required for clathrin-coated pits assembly at the synapse (PubMed:17261850). Participates in cell junction assembly (PubMed:17261850). Modulates adherens junctions formation by facilitating CDH1/cadherin trafficking (PubMed:17261850). Required for focal adhesion dynamics. Modulates the targeting of talins (TLN1 and TLN2) to the plasma membrane and their efficient assembly into focal adhesions (PubMed:12422219). Regulates the interaction between talins (TLN1 and TLN2) and beta-integrins (PubMed:12422219). Required for uropodium formation and retraction of the cell rear during directed migration (By similarity). Has a role in growth factor-stimulated directional cell migration and adhesion (By similarity). Required for talin assembly into nascent adhesions forming at the leading edge toward the direction of the growth factor (PubMed:17635937). Negative regulator of T-cell activation and adhesion (By similarity). Negatively regulates integrin alpha-L/beta-2 (LFA-1) polarization and adhesion induced by T-cell receptor (By similarity). Together with PIP5K1A has a role during embryogenesis and together with PIP5K1B may have a role immediately after birth (By similarity).

Cellular Location
Cell membrane; Peripheral membrane protein; Cytoplasmic side {ECO:0000250|UniProtKB:Q5I6B8}. Endomembrane system {ECO:0000250|UniProtKB:Q5I6B8}. Cytoplasm {ECO:0000250|UniProtKB:O70161}. Cell junction, focal adhesion. Cell junction, adherens junction. Cell projection, ruffle membrane {ECO:0000250|UniProtKB:Q5I6B8}. Cell projection, phagocytic cup {ECO:0000250|UniProtKB:O70161}. Cell projection, uropodium {ECO:0000250|UniProtKB:O70161}. Note=Detected in plasma membrane invaginations. Isoform 3 is detected in intracellular vesicle-like structures

Tissue Location
[Isoform 1]: Isoform 1 is strongly expressed in brain and also detected in heart and lung [Isoform 3]: Isoform 3 is detected in large amounts in heart and large intestine, is also present in lung, pancreas and thyroid, and to a lesser extent in brain, stomach and kidney

PIP5K1C Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

PIP5K1C Antibody (C-term) Blocking Peptide - Images

PIP5K1C Antibody (C-term) Blocking Peptide - Background

This locus encodes a type I phosphatidylinositol4-phosphate 5-kinase. The encoded protein catalyzes phosphorylationof phosphatidylinositol 4-phosphate, producing phosphatidylinositol4,5-bisphosphate. This enzyme is found at synapses and has beenfound to play roles in endocytosis and cell migration. Mutations atthis locus have been associated with lethal congenital contracturalsyndrome. Alternatively spliced transcript variants encodingdifferent isoforms have been described.

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PIP5K1C Antibody (C-term) Blocking Peptide - References

Gallicchio, M.A., et al. Biochim. Biophys. Acta 1803(8):919-930(2010)Kahlfeldt, N., et al. J. Biol. Chem. 285(4):2734-2749(2010)Akieda-Asai, S., et al. PLoS ONE 5 (7), E11755 (2010) :Sun, Y., et al. Breast Cancer Res. 12 (1), R6 (2010) :Schill, N.J., et al. Biochem. J. 422(3):473-482(2009)