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PIP5K1C Rabbit mAb

Catalog # AP75915

Specification

PIP5K1C Rabbit mAb - Product Information

Application	**WB, IP**
Primary Accession	O70161
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Monoclonal Antibody**
Calculated MW	**72408**

PIP5K1C Rabbit mAb - Additional Information

Gene ID 18717

Other Names
Pip5K1C

Dilution
WB~~1/500-1/1000
IP~~1/20

Format
Liquid

PIP5K1C Rabbit mAb - Protein Information

Name Pip5k1c {ECO:0000312|MGI:MGI:1298224}

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:14741049, PubMed:20622009, PubMed:22942276, PubMed:9535851). 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) (By similarity). 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 (PubMed:19153220). 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 (PubMed:15386003). Controls the plasma membrane pool of PtdIns(4,5)P2 implicated in synaptic vesicle endocytosis and exocytosis (By similarity). Plays a role in endocytosis mediated by clathrin and AP-2 (adaptor protein complex 2) (PubMed:16707488). Required for clathrin-coated pits assembly at the synapse (By similarity). Participates in cell junction assembly (By similarity). Modulates adherens junctions formation by facilitating CDH1/cadherin trafficking (By similarity). Required for focal adhesion dynamics (PubMed:12422220). Modulates the targeting of talins (TLN1 and TLN2) to the plasma membrane and their efficient assembly into focal adhesions (By similarity). Regulates the interaction between talins (TLN1 and TLN2) and beta-integrins (By similarity). Required for uropodium formation and retraction of the cell rear during directed migration (PubMed:17928408). Has a role in growth factor-stimulated directional cell migration and adhesion (PubMed:17635937). 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 (PubMed:20855869). Negatively regulates integrin alpha-L/beta-2 (LFA-1) polarization and adhesion induced by T- cell receptor (PubMed:20855869). Together with PIP5K1A has a role during embryogenesis and together with PIP5K1B may have a role immediately after birth (PubMed:17609388, PubMed:20622009).

Cellular Location
Cell membrane; Peripheral membrane protein; Cytoplasmic side {ECO:0000250|UniProtKB:Q5I6B8}. Endomembrane system {ECO:0000250|UniProtKB:Q5I6B8}. Cytoplasm. Cell junction, focal adhesion. Cell junction, adherens junction {ECO:0000250|UniProtKB:O60331}. Cell projection, ruffle membrane {ECO:0000250|UniProtKB:Q5I6B8}. Cell projection, phagocytic cup. Cell projection, uropodium. Note=During directional migration isoform 1 localized at the uropodium, and isoform 3 localized all along cell membrane including the uropodium and the leading edge

Tissue Location
High expression in brain. Also detected in lung, thymus, heart, testicle, kidney and embryo. Highly expressed in forebrain, in particular in cerebellum, hippocampus and cerebral cortex.

PIP5K1C Rabbit mAb - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PIP5K1C Rabbit mAb - Images

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