

Recombinant Mouse Pip5k1c Protein, Myc/DDK-tagged

Cat. No. Pip5k1c-4875M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length phosphatidylinositol-4-phosphate 5-kinase, type 1 gamma (Pip5k1c), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	Catalyzes the phosphorylation of phosphatidylinositol 4-phosphate (PtdIns4P/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. 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). PIP5K1A-mediated phosphorylation of PtdIns4P is the predominant pathway for PtdIns(4,5)P2 synthesis. Together with PIP5K1A, is required for phagocytosis, both enzymes regulating different types of actin remodeling at sequential steps 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 Controls the plasma membrane pool of PtdIns(4,5)P2 implicated in synaptic vesicle endocytosis and exocytosis. Plays a role in endocytosis mediated by clathrin and AP-2 (adaptor protein complex 2) Required for clathrin-coated pits assembly at the synapse. Participates in cell junction assembly. Mo

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

modulates adherens junctions formation by facilitating CDH1/cadherin trafficking. Required for focal adhesion dynamics Modulates the targeting of talins (TLN1 and TLN2) to the plasma membrane and their efficient assembly into focal adhesions. Regulates the interaction between talins (TLN1 and TLN2) and beta-integrins. Required for uropodium formation and retraction of the cell rear during directed migration Has a role in growth factor-stimulated directional cell migration and adhesion Required for talin assembly into nascent adhesions forming at the leading edge toward the direction of the growth factor Negative regulator of T-cell activation and adhesion Negatively regulates integrin alpha-L/beta-2 (LFA-1) polarization and adhesion induced by T-cell receptor Together with PIP5K1A has a role during embryogenesis and together with PIP5K1B may have a role immediately after birth.

Molecular Mass	69.5 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Pip5k1c phosphatidylinositol-4-phosphate 5-kinase, type 1 gamma [Mus musculus (house mouse)]
Official Symbol	Pip5k1c

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Synonyms	PIP5K1C; phosphatidylinositol-4-phosphate 5-kinase, type 1 gamma; 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; AI115456; AI835305; Pip5kIgamma
Gene ID	18717
mRNA Refseq	NM_001146687
Protein Refseq	NP_001140159
UniProt ID	O70161

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