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PIP5KIII Polyclonal Antibody

Catalog # AP71917

Product Information

Application	WB, IHC-P
Primary Accession	Q9Y2I7
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	237136

Additional Information

Gene ID	200576
Other Names	PIKFYVE; KIAA0981; PIP5K3; 1-phosphatidylinositol 3-phosphate 5-kinase; Phosphatidylinositol 3-phosphate 5-kinase; FYVE finger-containing phosphoinositide kinase; PIKfyve; Phosphatidylinositol 3-phosphate 5-kinase type III; PIPkin-III; Type
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/5000. Not yet tested in other applications. IHC-P~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

Name	PIKFYVE (HGNC:23785)
Synonyms	KIAA0981, PIP5K3
Function	Dual specificity kinase implicated in myriad essential cellular processes such as maintenance of endomembrane homeostasis, and endocytic-vacuolar pathway, lysosomal trafficking, nuclear transport, stress- or hormone-induced signaling and cell cycle progression (PubMed:23086417). The PI(3,5)P2 regulatory complex regulates both the synthesis and turnover of phosphatidylinositol 3,5-bisphosphate (PtdIns(3,5)P2) (PubMed:17556371, PubMed:41639454). Sole enzyme to catalyze the phosphorylation of phosphatidylinositol 3-phosphate on the fifth hydroxyl of the myo-inositol ring, to form (PtdIns(3,5)P2) (PubMed:17556371, PubMed:41639454). Also catalyzes the phosphorylation of phosphatidylinositol on the fifth hydroxyl of the myo-inositol ring, to form phosphatidylinositol 5-phosphate (PtdIns(5)P) (PubMed:22621786). Has serine-protein kinase activity and is able to autophosphorylate and transphosphorylate. Autophosphorylation inhibits its

own phosphatidylinositol 3-phosphate 5-kinase activity, stimulates FIG4 lipid phosphatase activity and down-regulates lipid product formation (PubMed:33098764). Involved in key endosome operations such as fission and fusion in the course of endosomal cargo transport (PubMed:22621786). Required for the maturation of early into late endosomes, phagosomes and lysosomes (PubMed:30612035). Regulates vacuole maturation and nutrient recovery following engulfment of macromolecules, initiates the redistribution of accumulated lysosomal contents back into the endosome network (PubMed:27623384). Critical regulator of the morphology, degradative activity, and protein turnover of the endolysosomal system in macrophages and platelets (By similarity). In neutrophils, critical to perform chemotaxis, generate ROS, and undertake phagosome fusion with lysosomes (PubMed:28779020). Plays a key role in the processing and presentation of antigens by major histocompatibility complex class II (MHC class II) mediated by CTSS (PubMed:30612035). Regulates melanosome biogenesis by controlling the delivery of proteins from the endosomal compartment to the melanosome (PubMed:29584722). Essential for systemic glucose homeostasis, mediates insulin-induced signals for endosome/actin remodeling in the course of GLUT4 translocation/glucose uptake activation (By similarity). Synthesis if (PtdIns(3,5)P2) is required for the cGAS-STING pathway (PubMed:41639454). Supports microtubule- based endosome-to-trans-Golgi network cargo transport, through association with SPAG9 and RABEPK (By similarity). Mediates EGFR trafficking to the nucleus (PubMed:17909029).

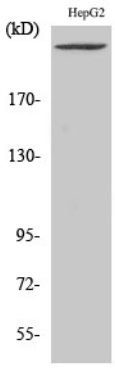
Cellular Location

Endosome membrane; Peripheral membrane protein {ECO:0000250|UniProtKB:Q9Z1T6}. Early endosome membrane; Peripheral membrane protein. Cytoplasmic vesicle, phagosome membrane; Peripheral membrane protein. Late endosome membrane; Peripheral membrane protein {ECO:0000250|UniProtKB:Q9Z1T6}. Note=Mainly associated with membranes of the late endocytic pathway.

Background

The PI(3,5)P2 regulatory complex regulates both the synthesis and turnover of phosphatidylinositol 3,5-bisphosphate (PtdIns(3,5)P2). Catalyzes the phosphorylation of phosphatidylinositol 3-phosphate on the fifth hydroxyl of the myo- inositol ring, to form phosphatidylinositol 3,5-bisphosphate. Required for endocytic-vacuolar pathway and nuclear migration. Plays a role in the biogenesis of endosome carrier vesicles (ECV)/ multivesicular bodies (MVB) transport intermediates from early endosomes.

Images



Western Blot analysis of various cells using PIP5KIII Polyclonal Antibody

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