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KD-Validated Anti-PIP4K2A Mouse Monoclonal Antibody

Mouse monoclonal Antibody
Catalog # AGI2161

Product Information

Application	WB
Primary Accession	P48426
Reactivity	Human
Clonality	Monoclonal
Isotype	Mouse IgG1
Clone Names	24GB13955
Calculated MW	46225
Gene Name	PIP4K2A
Aliases	PIP4K2A; Phosphatidylinositol-5-Phosphate 4-Kinase Type 2 Alpha; PIP5KIIalpha; PIP5KIIA; PIP5K2A; Phosphatidylinositol-4-Phosphate 5-Kinase, Type II, Alpha; Phosphatidylinositol 5-Phosphate 4-Kinase Type II Alpha; Phosphatidylinositol 5-Phosphate 4-Kinase Type-2 Alpha; 1-Phosphatidylinositol 5-Phosphate 4-Kinase 2-Alpha; Diphosphoinositide Kinase 2-Alpha; PI(5)P 4-Kinase Type II Alpha; PIP4KII-Alpha; EC 2.7.1.149; PI5P4Kalpha; PIP5KIII; PI5P4KA; Phosphatidylinositol-5-Phosphate 4-Kinase, Type II, Alpha; 1-Phosphatidylinositol-4-Phosphate-5-Kinase; 1-Phosphatidylinositol-4-Phosphate Kinase; Phosphatidylinositol 5-Phosphate 4-Kinase; PtdIns(5)P-4-Kinase Isoform 2-Alpha; PtdIns(4)P-5-Kinase B Isoform; PtdIns(4)P-5-Kinase C Isoform; PIP5KII-Alpha; EC 2.7.1; PIP5K2; PIPK
Immunogen	Recombinant protein of human PIP4K2A

Additional Information

Gene ID	5305
Other Names	Phosphatidylinositol 5-phosphate 4-kinase type-2 alpha, 2.7.1.149, 1-phosphatidylinositol 5-phosphate 4-kinase 2-alpha, Diphosphoinositide kinase 2-alpha, PIP5KIII, Phosphatidylinositol 5-Phosphate 4-Kinase, PI5P4Kalpha, Phosphatidylinositol 5-phosphate 4-kinase type II alpha, PI(5)P 4-kinase type II alpha, PIP4KII-alpha, PtdIns(4)P-5-kinase B isoform, PtdIns(4)P-5-kinase C isoform, PtdIns(5)P-4-kinase isoform 2-alpha, PIP4K2A (HGNC:8997)

Protein Information

Name	PIP4K2A (HGNC:8997)
Function	Catalyzes the phosphorylation of phosphatidylinositol 5- phosphate (PtdIns5P) on the fourth hydroxyl of the myo-inositol ring, to form phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P2) (PubMed:23326584, PubMed:9367159). Has both ATP- and GTP-dependent kinase activities (PubMed:26774281). May exert its function by regulating the levels of

	PtdIns5P, which functions in the cytosol by increasing AKT activity and in the nucleus signals through ING2 (PubMed:18364242). May regulate the pool of cytosolic PtdIns5P in response to the activation of tyrosine phosphorylation (By similarity). Required for lysosome-peroxisome membrane contacts and intracellular cholesterol transport through modulating peroxisomal PtdIns(4,5)P2 level (PubMed:29353240). In collaboration with PIP4K2B, has a role in mediating autophagy in times of nutrient stress (By similarity). Required for autophagosome-lysosome fusion and the regulation of cellular lipid metabolism (PubMed:31091439). May be involved in thrombopoiesis, and the terminal maturation of megakaryocytes and regulation of their size (By similarity). Negatively regulates insulin signaling through a catalytic-independent mechanism (PubMed:31091439). PIP4Ks interact with PIP5Ks and suppress PIP5K-mediated PtdIns(4,5)P2 synthesis and insulin-dependent conversion to PtdIns(3,4,5)P3 (PubMed:31091439).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:O70172}. Nucleus. Lysosome {ECO:0000250|UniProtKB:O70172}. Cytoplasm. Photoreceptor inner segment {ECO:0000250|UniProtKB:O70172}. Cell projection, cilium, photoreceptor outer segment {ECO:0000250|UniProtKB:O70172}. Note=May translocate from the cytosol to the cell membrane upon activation of tyrosine phosphorylation. May translocate from the inner to the outer segments of the rod photoreceptor cells in response to light (By similarity) Localization to the nucleus is modulated by the interaction with PIP4K2B. {ECO:0000250|UniProtKB:O70172, ECO:0000269|PubMed:20583997}
Tissue Location	Expressed ubiquitously, with high levels in the brain. Present in most tissues, except notably skeletal muscle and small intestine.

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