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KD-Validated Anti-PIP4K2A Mouse Monoclonal Antibody

Mouse monoclonal Antibody
Catalog # AGI2161

Specification

KD-Validated Anti-PIP4K2A Mouse Monoclonal Antibody - Product Information

Application	**WB**
Primary Accession	P48426
Reactivity	**Human**
Clonality	**Monoclonal**
Isotype	**Mouse IgG1**
Calculated MW	**Predicted, 46 kDa, observed, 49 kDa KDa**
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**

KD-Validated Anti-PIP4K2A Mouse Monoclonal Antibody - 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)

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KD-Validated Anti-PIP4K2A Mouse Monoclonal Antibody - 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.

KD-Validated Anti-PIP4K2A Mouse Monoclonal Antibody - 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

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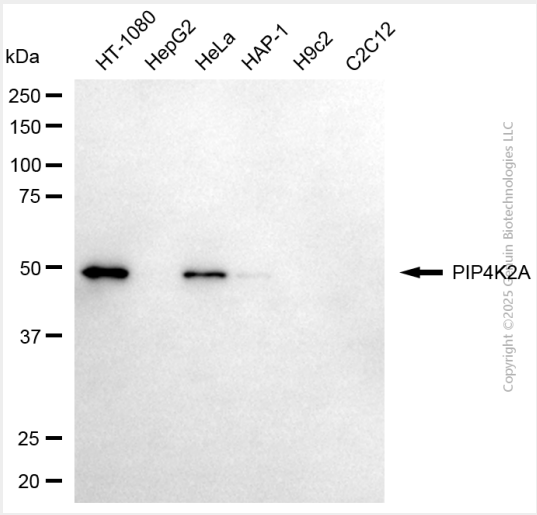
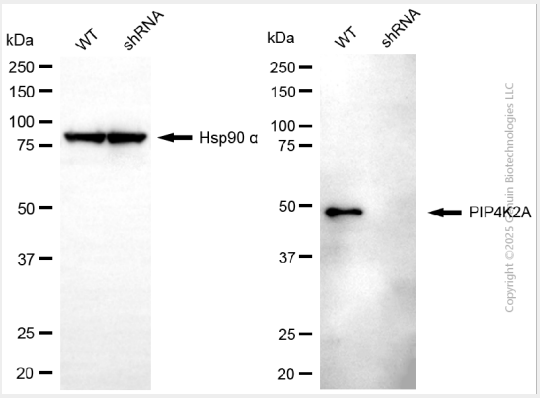
KD-Validated Anti-PIP4K2A Mouse Monoclonal Antibody - Images



Western blotting analysis using anti-PIP4K2A antibody (Cat#AGI2161). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-PIP4K2A antibody (Cat#AGI2161, 1:2,500) and HRP-conjugated goat anti-mouse secondary antibody respectively.



Western blotting analysis using anti-PIP4K2A antibody (Cat#AGI2161). PIP4K2A expression in wild-type (WT) and PIP4K2A shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-PIP4K2A antibody (Cat#AGI2161, 1:2,500) and HRP-conjugated goat anti-mouse secondary antibody respectively.