10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.622.0609

PIP4K2 Alpha (PIP4K2A) Antibody (C-term)

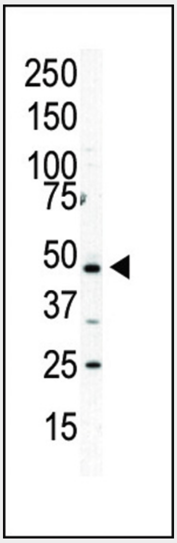
Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP8041b

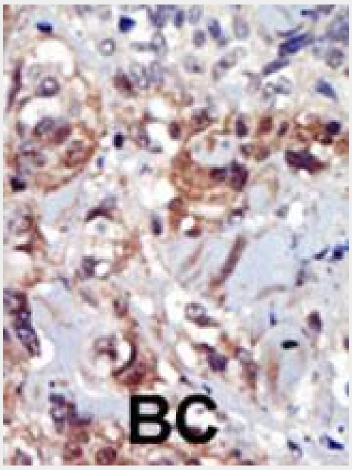
Specification

PIP4K2 Alpha (PIP4K2A) Antibody (C-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	P48426
Other Accession	Q9R0I8, O13010, O70172, NP_005019
Reactivity	**Human**
Predicted	**Mouse, Pig, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit Ig**
Antigen Region	**303-335**



Western blot analysis of anti-PIP4K2A Pab (Cat. #AP8041b) in HL60 cell lysate. PIP5K2A (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma;

PIP4K2 Alpha (PIP4K2A) Antibody (C-term) - Additional Information

Gene ID 5305

Other Names
Phosphatidylinositol 5-phosphate 4-kinase type-2 alpha, 1-phosphatidylinositol 5-phosphate 4-kinase 2-alpha, Diphosphoinositide kinase 2-alpha, PIP5KIII, 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, PIP5K2, PIP5K2A

Target/Specificity
This PIP4K2 Alpha (PIP4K2A) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 303-335 amino acids from the C-terminal region of human PIP4K2 Alpha (PIP4K2A).

Dilution
WB~~1:1000
IHC-P~~1:50~100

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated

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Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
PIP4K2 Alpha (PIP4K2A) Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PIP4K2 Alpha (PIP4K2A) Antibody (C-term) - 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:9367159, PubMed:23326584). 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:<a href="http://www.uniprot.org/c

HC = hepatocarcinoma.

PIP4K2 Alpha (PIP4K2A) Antibody (C-term) - Background

Phosphatidylinositol-4,5-bisphosphate, the precursor to second messengers of the phosphoinositide signal transduction pathways, is thought to be involved in the regulation of secretion, cell proliferation, differentiation, and motility. TPIP5K2A is one of a family of enzymes capable of catalyzing the phosphorylation of phosphatidylinositol-4-phosphate on the fifth hydroxyl of the myo-inositol ring to form phosphatidylinositol-4,5-bisphosphate. The amino acid sequence of this enzyme does not show homology to other kinases, but the recombinant protein does exhibit kinase activity. The protein is a member of the phosphatidylinositol-4-phosphate 5-kinase family.

PIP4K2 Alpha (PIP4K2A) Antibody (C-term) - References

Rozenvayn, N., et al., J. Biol. Chem. 278(10):8126-8134 (2003).
Boronenkov, I.V., et al., J. Biol. Chem. 270(7):2881-2884 (1995).
Loijens, J.C., et al., Adv. Enzyme Regul. 36, 115-140 (1996).
Divecha, N., et al., Biochem. J. 309 (Pt 3), 715-719 (1995).

itations/31091439" target="_blank">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.

PIP4K2 Alpha (PIP4K2A) Antibody (C-term) - 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

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- Cell Culture

PIP4K2 Alpha (PIP4K2A) Antibody (C-term) - Citations

- PtdIns5P is an oxidative stress-induced second messenger that regulates PKB activation.
- Regulation of phosphatidylinositol-5-phosphate signaling by Pin1 determines sensitivity to oxidative stress.
- Light-induced tyrosine phosphorylation of rod outer segment membrane proteins regulate the translocation, membrane binding and activation of type II Î± phosphatidylinositol-5-phosphate 4-kinase.
- PIP4Kbeta interacts with and modulates nuclear localization of the high-activity PtdIns5P-4-kinase isoform PIP4Kalpha.
- Regulation of extranuclear PtdIns5P production by phosphatidylinositol phosphate 4-kinase 2alpha.