

PIP4KII-alpha (PIP4K2A) Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8041a

Specification

PIP4KII-alpha (PIP4K2A) Antibody (N-term) - Product Information

Application	WB, IHC-P,E
Primary Accession	P48426
Other Accession	O9R0I8 , O70172
Reactivity	Human, Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	107-139

PIP4KII-alpha (PIP4K2A) Antibody (N-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 PIP4KII-alpha(PIP4K2A) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 107-139 amino acids from the N-terminal region of human PIP4KII-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 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

PIP4KII-alpha (PIP4K2A) Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PIP4KII-alpha (PIP4K2A) Antibody (N-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:[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}

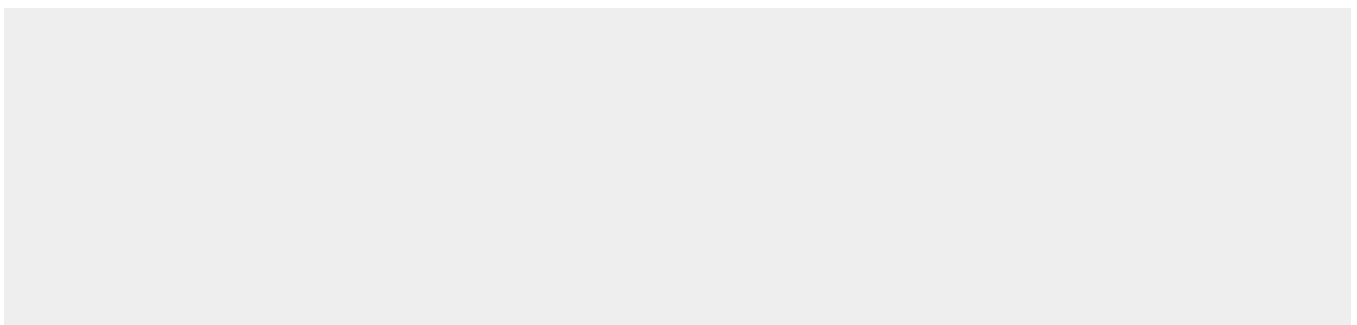
Tissue Location

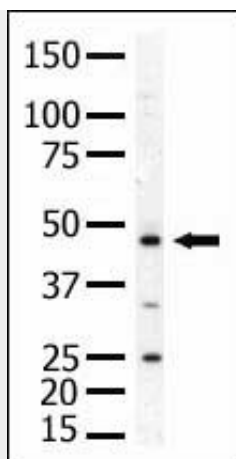
Expressed ubiquitously, with high levels in the brain. Present in most tissues, except notably skeletal muscle and small intestine.

PIP4KII-alpha (PIP4K2A) Antibody (N-term) - Protocols

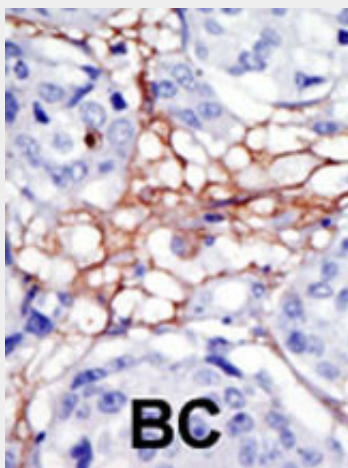
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PIP4KII-alpha (PIP4K2A) Antibody (N-term) - Images



The anti-PIP4K2A Pab (Cat. #AP8041a) is used in Western blot to detect PIP4K2A in mouse skeletal muscle tissue lysate.



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

PIP4KII-alpha (PIP4K2A) Antibody (N-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. PIP4K2A 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.

PIP4KII-alpha (PIP4K2A) Antibody (N-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).