

**PIP4K2A / PIPK Antibody (clone 3A3)**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS14401**

### Specification

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#### PIP4K2A / PIPK Antibody (clone 3A3) - Product Information

Application	<b>WB, IHC</b>
Primary Accession	<a href="#">P48426</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Calculated MW	<b>46kDa KDa</b>

#### PIP4K2A / PIPK Antibody (clone 3A3) - 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 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

Human PIP5K2A

#### Reconstitution & Storage

Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

#### Precautions

PIP4K2A / PIPK Antibody (clone 3A3) is for research use only and not for use in diagnostic or therapeutic procedures.

#### PIP4K2A / PIPK Antibody (clone 3A3) - 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)P<sub>2</sub>) (PubMed:<a href="http://www.uniprot.org/citations/23326584" target="\_blank">23326584</a>, PubMed:<a href="http://www.uniprot.org/citations/9367159" target="\_blank">9367159</a>). Has both ATP- and GTP-dependent kinase activities (PubMed:<a href="http://www.uniprot.org/citations/26774281" target="\_blank">26774281</a>). 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:<a href="http://www.uniprot.org/citations/18364242" target="\_blank">18364242</a>). 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)P<sub>2</sub> level (PubMed:<a href="http://www.uniprot.org/citations/29353240" target="\_blank">29353240</a>). 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/citations/31091439" target="\_blank">31091439</a>). 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:<a href="http://www.uniprot.org/citations/31091439" target="\_blank">31091439</a>). PIP4Ks interact with PIP5Ks and suppress PIP5K-mediated PtdIns(4,5)P<sub>2</sub> synthesis and insulin-dependent conversion to PtdIns(3,4,5)P<sub>3</sub> (PubMed:<a href="http://www.uniprot.org/citations/31091439" target="\_blank">31091439</a>).

### 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.

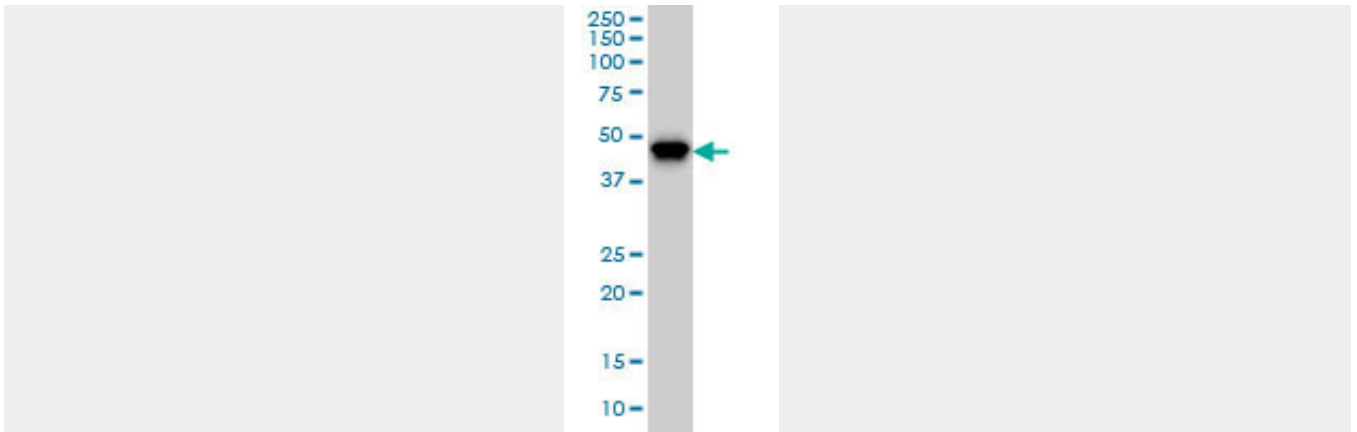
### PIP4K2A / PIPK Antibody (clone 3A3) - Protocols

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

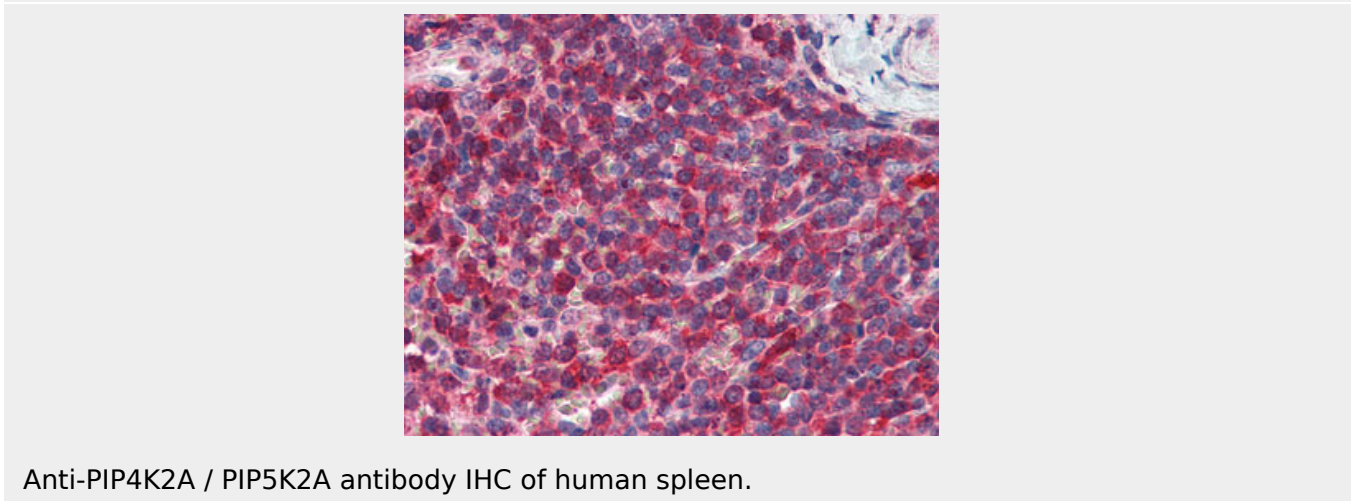
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### PIP4K2A / PIPK Antibody (clone 3A3) - Images





PIP5K2A monoclonal antibody ALS14401 Western blot of PIP5K2A expression in K-562.



Anti-PIP4K2A / PIP5K2A antibody IHC of human spleen.

### **PIP4K2A / PIPK Antibody (clone 3A3) - Background**

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)P<sub>2</sub>). 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. May regulate the pool of cytosolic PtdIns5P in response to the activation of tyrosine phosphorylation. May negatively regulate insulin-stimulated glucose uptake by lowering the levels of PtdIns5P. May be involved in thrombopoiesis, and the terminal maturation of megakaryocytes and regulation of their size.

### **PIP4K2A / PIPK Antibody (clone 3A3) - References**

- Boronenkov I.V., et al. *J. Biol. Chem.* 270:2881-2884(1995).
- Boronenkov I.V., et al. Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
- Divecha N., et al. *Biochem. J.* 309:715-719(1995).
- Ota T., et al. *Nat. Genet.* 36:40-45(2004).
- Deloukas P., et al. *Nature* 429:375-381(2004).