

**PI4K2A (PI4K II) Antibody (N-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP8032a****Specification**

---

**PI4K2A (PI4K II) Antibody (N-term) - Product Information**

Application	WB, IF, IHC-P,E
Primary Accession	<a href="#">Q9BTU6</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	54022
Antigen Region	1-30

**PI4K2A (PI4K II) Antibody (N-term) - Additional Information****Gene ID** 55361**Other Names**

Phosphatidylinositol 4-kinase type 2-alpha, Phosphatidylinositol 4-kinase type II-alpha, PI4K2A

**Target/Specificity**

This PI4K2A (PI4K II) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human PI4K2A (PI4K II).

**Dilution**

WB~~1:8000

IF~~1:10~50

IHC-P~~1:50~100

E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, 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**

PI4K2A (PI4K II) Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**PI4K2A (PI4K II) Antibody (N-term) - Protein Information****Name** PI4K2A

**Function** Membrane-bound phosphatidylinositol-4 kinase (PI4-kinase) that catalyzes the phosphorylation of phosphatidylinositol (PI) to phosphatidylinositol 4-phosphate (PI4P), a lipid that plays important roles in endocytosis, Golgi function, protein sorting and membrane trafficking and is required for prolonged survival of neurons. Besides, phosphorylation of phosphatidylinositol (PI) to phosphatidylinositol 4-phosphate (PI4P) is the first committed step in the generation of phosphatidylinositol 4,5-bisphosphate (PIP2), a precursor of the second messenger inositol 1,4,5-trisphosphate (InsP3).

#### **Cellular Location**

Golgi apparatus, trans-Golgi network membrane; Lipid-anchor. Membrane raft. Cell projection, dendrite {ECO:0000250|UniProtKB:Q2TBE6}. Presynaptic cell membrane {ECO:0000250|UniProtKB:Q2TBE6}. Synapse, synaptosome {ECO:0000250|UniProtKB:Q2TBE6}. Mitochondrion {ECO:0000250|UniProtKB:Q2TBE6}. Endosome. Endosome membrane. Cytoplasmic vesicle. Membrane; Lipid-anchor. Cell membrane. Perikaryon {ECO:0000250|UniProtKB:Q2TBE6}. Cell projection, neuron projection {ECO:0000250|UniProtKB:Q2TBE6}. Note=Found in subdomains of the plasma membrane termed non-caveolar membrane rafts. Transported from neuronal cell body to neuron projections and neurite tips in a BLOC-1- and AP-3- complexes-dependent manner. {ECO:0000250|UniProtKB:Q2TBE6}

#### **Tissue Location**

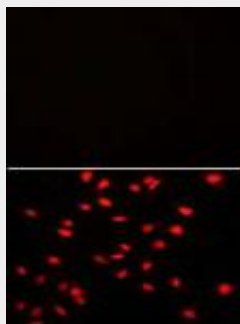
Widely expressed. Highest expression is observed in kidney, brain, heart, skeletal muscle, and placenta and lowest expression is observed in colon, thymus, and small intestine

### **PI4K2A (PI4K II) Antibody (N-term) - Protocols**

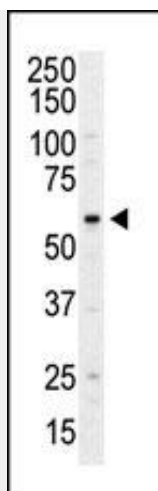
Provided below are standard protocols that you may find useful for product applications.

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

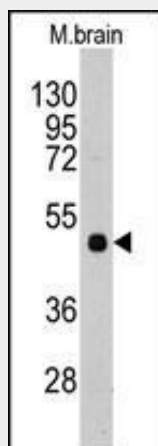
### **PI4K2A (PI4K II) Antibody (N-term) - Images**



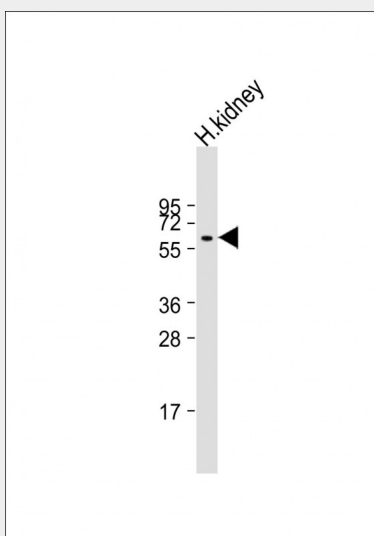
Negative control of hela cells without Alexa-Fluor-546-conjugated donkey anti-rabbit IgG (H+L).Alexa-Fluor-546 emits orange fluorescence. Immunofluorescence analysis of PI4K2A (PI4K II) Antibody (N-term) in HeLa cells. 0.025 mg/ml primary antibody was followed by Alexa-Fluor-546-conjugated donkey anti-rabbit IgG (H+L).



Western blot analysis of anti-PI4K II Pab (Cat. #AP8032a) in HL60 cell lysate. PI4K II (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.

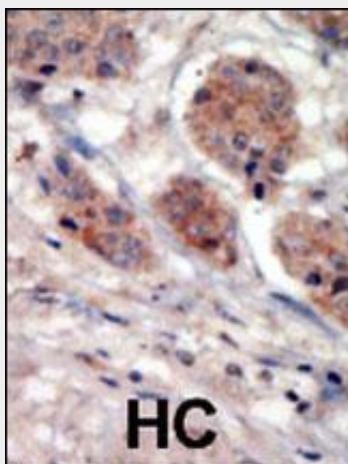


Western blot analysis of anti-PI4K2A Antibody (N-term D2) (Cat.#AP7575d) in mouse brain tissue lysates (35ug/lane). PI4KII(arrow) was detected using the purified Pab.



Anti-PI4K II Antibody (C-term) at 1:8000 dilution + human kidney lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution.

Predicted band size : 54 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



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.

#### **PI4K2A (PI4K II) Antibody (N-term) - Background**

Phosphatidylinositolpolyphosphates (PtdInsPs) are centrally involved in many biologic processes, ranging from cell growth and organization of the actin cytoskeleton to endo- and exocytosis. PI4KII phosphorylates PtdIns at the D-4 position, an essential step in the biosynthesis of PtdInsPs. PI4K II is activated by detergent and inhibited by adenosine. Overexpression of PI4KII in COS-7 cells increases synthesis of PtdIns4P. Some cells overexpressing PI4KII have scattered or no perinuclear Golgi. Knockdown of PI4KII by RNA interference (RNAi) does not disrupt the Golgi, and some cells show expanded Golgi. RNAi reduces the Golgi level of PtdIns4P and blocks the association between AP1 and the trans-Golgi network. PI4KII RNAi had little effect on intra-Golgi trafficking, but it inhibited export to plasma membrane export by 35%. It has been proposed that PI4KII generates PtdIns4P-rich domains within the Golgi that specify docking of the AP1 coat machinery.

#### **PI4K2A (PI4K II) Antibody (N-term) - References**

Wang, Y.J., et al., Cell 114(3):299-310 (2003). Minogue, S., et al., J. Biol. Chem. 276(20):16635-16640 (2001). Barylko, B., et al., J. Biol. Chem. 276(11):7705-7708 (2001). Waugh, M.G., et al., Biochem. J. 373 (Pt 1), 57-63 (2003).