10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-PI4K alpha, type I (RABBIT) Antibody

PI4K alpha type I Antibody
Catalog # ASR5733

Specification

Anti-PI4K alpha, type I (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, IHC, E, I, LCI**
Application Note	**Anti-PI4K alpha antibody is tested by IHC and ELISA useful for Western Blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately ~62.6kDa corresponding to the appropriate cell lysate or extract.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**Anti-PI4K, type I alpha affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region of human PI4K, type I alpha protein.**
Stabilizer	**30% Glycerol**

Anti-PI4K alpha, type I (RABBIT) Antibody - Additional Information

Gene ID 8394

Purity
Anti-PI4K, type I alpha was affinity purified from monospecific antiserum by immunoaffinity chromatography. A BLAST analysis was used to suggest cross-reactivity with mouse and human based on 100% sequence homology. Cross-reactivity with PI4K, type I alpha from other sources has not been determined.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-PI4K alpha, type I (RABBIT) Antibody - Protein Information

Name PIP5K1A (HGNC:8994)

Function
Catalyzes the phosphorylation of phosphatidylinositol 4- phosphate (PtdIns(4)P/PI4P) to form phosphatidylinositol 4,5- bisphosphate (PtdIns(4,5)P2/PIP2), a lipid second messenger that regulates several cellular processes such as signal transduction, vesicle trafficking, actin cytoskeleton dynamics, cell adhesion, and cell motility (PubMed:21477596, PubMed:22942276, PubMed:8955136). PtdIns(4,5)P2 can directly act as a second messenger or can be utilized as a precursor to generate other second messengers: inositol 1,4,5- trisphosphate (IP3), diacylglycerol (DAG) or phosphatidylinositol-3,4,5-trisphosphate (PtdIns(3,4,5)P3/PIP3) (PubMed:19158393, PubMed:20660631). PIP5K1A-mediated phosphorylation of PtdIns(4)P is the predominant pathway for PtdIns(4,5)P2 synthesis (By similarity). Can also use phosphatidylinositol (PtdIns) as substrate in vitro (PubMed:22942276). Together with PIP5K1C, is required for phagocytosis, both enzymes regulating different types of actin remodeling at sequential steps (By similarity). Promotes particle ingestion by activating the WAS GTPase-binding protein that induces Arp2/3 dependent actin polymerization at the nascent phagocytic cup (By similarity). Together with PIP5K1B, is required, after stimulation by G-protein coupled receptors, for the synthesis of IP3 that will induce stable platelet adhesion (By similarity). Recruited to the plasma membrane by the E-cadherin/beta-catenin complex where it provides the substrate PtdIns(4,5)P2 for the production of PtdIns(3,4,5)P3, IP3 and DAG, that will mobilize internal calcium and drive keratinocyte differentiation (PubMed:19158393). Positively regulates insulin-induced translocation of SLC2A4 to the cell membrane in adipocytes (By similarity). Together with PIP5K1C has a role during embryogenesis (By similarity). Independently of its catalytic activity, is required for membrane ruffling formation, actin organization and focal adhesion formation during directional cell migration by controlling integrin-induced translocation of the small GTPase RAC1 to the plasma membrane (PubMed:20660631). Also functions in the nucleus where it acts as an activator of TUT1 adenylyltransferase activity in nuclear speckles, thereby regulating mRNA polyadenylation of a select set of mRNAs (PubMed:18288197).

Cellular Location
Cell membrane {ECO:0000250|UniProtKB:P70182}. Cytoplasm {ECO:0000250|UniProtKB:P70182}. Nucleus. Nucleus speckle. Cell projection, ruffle. Cell projection, lamellipodium. Note=Colocalizes with RAC1 at actin-rich membrane ruffles (PubMed:20660631). Localizes to nuclear speckles and associates with TUT1 to regulate polyadenylation of selected mRNAs (PubMed:18288197).

Tissue Location
Highly expressed in heart, placenta, skeletal muscle, kidney and pancreas. Detected at lower levels in brain, lung and liver.

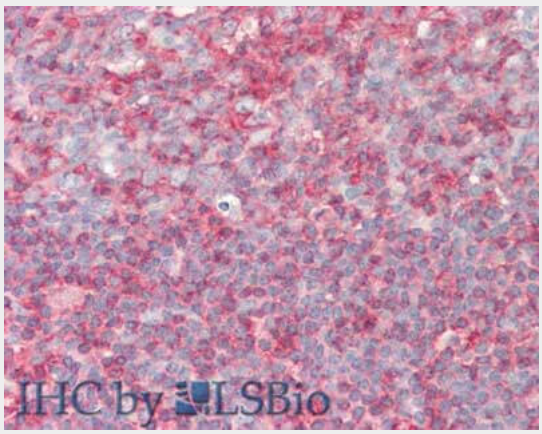
Anti-PI4K alpha, type I (RABBIT) Antibody - Protocols

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

Anti-PI4K alpha, type I (RABBIT) Antibody - Images



Immunohistochemistry of Rabbit anti-PIP5K1A antibody. Tissue: Tonsil. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: PIP5K1A antibody at 5 µg/mL for 1 h at RT. Secondary antibody: Peroxidase rabbit secondary antibody at 1:10,000 for 45 min at RT. Staining: PIP5K1A as precipitated red signal with hematoxylin purple nuclear counterstain.

Anti-PI4K alpha, type I (RABBIT) Antibody - Background

Phosphatidylinositol 4-phosphate 5-kinase type-1 alpha is a member of PI3/PI4-kinase family, PI4K alpha is expressed with the highest amount of expression in the heart, placenta, skeletal muscle, kidney and pancreas. This gene encodes a phosphatidylinositol (PI) 4-kinase which catalyzes the first committed step in the biosynthesis of phosphatidylinositol 4,5-bisphosphate. Anti-PI4K alpha antibody is ideal for investigators interested in Kinase and Phosphatase Antibodies.