Nature Biosciences

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PIP5K1A Mouse mAb[XZ24]

Cat NO. :A93292

Information:

Applications	Reactivity:	UniProt ID:	MW(kDa)	Host	Isotype	Size
WB,IHC	H	Q99755	63kDa	Mouse	IgG	100ul,200ul

Applications detail:

Application	Dilution
WB	1:1000-2000
IHC	1:100

The optimal dilutions should be determined by the end user

Conjugate:

UnConjugate

Form:

Liquid

sensitivity:

Endogenous

Purification:

Protein A purification

Specificity:

Antibody is produced by immunizing animals with a synthetic peptide of human PIP5K1A.

Storage buffer and conditions:

Antibody store in 10 mM PBS, 0.5mg/ml BSA, 50% glycerol（buffer）.

Shipped at 4°C. Store at-20°C or -80°C.

Products are valid for one natural year of receipt.Avoid repeated freeze / thaw cycles.

Tissue specificity:

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

Subcellular location:

Cell membrane. Cytoplasm. Nucleus. Nucleus speckle. Cell projection, ruffle. Cell projection, lamellipodium.

Function:

Introduction: **WB:** Western Blot **IP:** Immunoprecipitation **IHC:** Immunohistochemistry **ChIP:** Chromatin Immunoprecipitation **ICC/IF:** Immunocytochemistry/ Immunofluorescence **F:** Flow Cytometry

Cross Reactivity: **H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Hr:** horse

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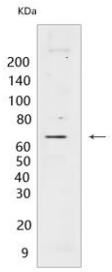
Catalyzes the phosphorylation of phosphatidylinositol 4-phosphate (PtdIns(4)P/PI4P) to form phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P2/PIP2), a lipid second messenger that regulates several cellular processes such as signal transduction, vesicle trafficking, actin cytoskeleton dynamics, cell adhesion, and cell motility (PubMed:8955136, PubMed:21477596, PubMed:22942276). 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)..

Validation Data：

PIP5K1A Mouse mAb[XZ24] Images



Western blot（SDS PAGE） analysis of extracts from LNCaP cells.Using PIP5K1A Mouse mAb IgG [XZ24] at dilution of 1:1000 incubated at 4℃ over night.

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IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 1% w/v Milk, 1X TBST at 4°C overnight.

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