Datasheet for ABIN7563514

PIP5K1A Protein (AA 1-546) (His tag)

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Overview

Quantity:	1 mg
Target:	PIP5K1A
Protein Characteristics:	AA 1-546
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This PIP5K1A protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat Pip5k1a Protein expressed in mammalien cells.
Sequence:	MASASSGPAA AGFSSLDAGA PAGTAAASGI KRATVSEGPS ASVMPVKKIG HRSVDSSGET TYKKTTSSAL KGAIQLGITH TVGSLSTKPE RDVLMQDFYV VESIFFPSEG SNLTPAHHYN DFRFKTYAPV AFRYFRELFG IRPDDYLYSL CSEPLIELSN SGASGSLFYV SSDDEFIIKT VQHKEAEFLQ KLLPGYYMNL NQNPRTLLPK FYGLYCVQAG GKNIRIVVMN NLLPRSVKMH MKYDLKGSTY KRRASQKERE KTLPTFKDLD FLQDIPDGLF LDADMYSALC KTLQRDCLVL QSFKIMDYSL LMSIHNMDHA QREPTSNDTQ YSADTRRPAP QKALYSTAME SIQGEARRGG TVETEDHMGG IPARNNKGER LLLYIGIIDI LQSYRFVKKL EHSWKALVHD GDTVSVHRPG FYAERFQRFM CNTVFKKIPL KPSPTKKFRS GPSFSRRSGP SGNSCTSQLM ASGEHRAQVT TKAEVEPDVH LGRPDVLPQT PPLEEISEGS PVPGPSFSPV VGQPLQILNL SSTLEKLDVA ESEFTH **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary.**

Product Details

	In case you have a special request, please contact us.
Characteristics:	Key Benefits: • Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalien cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris Page, Western Blot
Grade:	custom-made

Target Details

Target:	PIP5K1A
Alternative Name:	Pip5k1a (PIP5K1A Products)
Background:	Phosphatidylinositol 4-phosphate 5-kinase type-1 alpha (PIP5K1-alpha) (PtdIns(4)P-5-kinase 1 alpha) (EC 2.7.1.68) (68 kDa type I phosphatidylinositol 4-phosphate 5-kinase alpha) (Phosphatidylinositol 4-phosphate 5-kinase type I alpha) (PIP5KIalpha) (Phosphatidylinositol 4-phosphate 5-kinase type I beta) (PI4P5KIbeta),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:8798574, PubMed:9535851). 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) (By similarity). PIP5K1A-mediated phosphorylation of PtdIns(4)P is the predominant pathway for PtdIns(4,5)P2 synthesis (PubMed:18772378). Can

Target Details

	also use phosphatidylinositol (PtdIns) as substrate in vitro (By similarity). Together with PIP5K1C, is required for phagocytosis, both enzymes regulating different types of actin remodeling at sequential steps (PubMed:19153220). Promotes particle ingestion by activating the WAS GTPase-binding protein that induces Arp2/3 dependent actin polymerization at the nascent phagocytic cup (PubMed:19153220). Together with PIP5K1B, is required, after stimulation by G-protein coupled receptors, for the synthesis of IP3 that will induce stable platelet adhesion (PubMed:18772378). 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 (By similarity). Positively regulates insulin-induced translocation of SLC2A4 to the cell membrane in adipocytes (PubMed:27739494). Together with PIP5K1C has a role during embryogenesis (PubMed:20622009). 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:10679324). 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 (By similarity). {ECO:0000250|UniProtKB:Q99755, ECO:0000269|PubMed:10679324, ECO:0000269|PubMed:18772378, ECO:0000269|PubMed:19153220, ECO:0000269|PubMed:20622009, ECO:0000269|PubMed:27739494, ECO:0000269|PubMed:8798574, ECO:0000269|PubMed:9535851, ECO:0000303|PubMed:18772378}.
Molecular Weight:	60.5 kDa
UniProt:	P70182
Pathways:	PI3K-Akt Signaling, Mitotic G1-G1/S Phases, Inositol Metabolic Process, DNA Replication, Cell-Cell Junction Organization, Synthesis of DNA

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months