Datasheet for ABIN3134617

PIP5K1A Protein (AA 1-546) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	PIP5K1A
Protein Characteristics:	AA 1-546
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PIP5K1A protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Brand:	AliCE®
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 Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you**

	have a special request, please contact us.
Characteristics:	Key Benefits: • Made in Germany - from design to production - by highly experienced protein experts. • Protein expressed with ALiCE® and purified in one-step affinity chromatography • These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed). • 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. 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. Expression System: • ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. • During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein! Concentration: • The concentration of our recombinant proteins is measured using the absorbance at 280nm. • The protein's absorbance will be measured against its specific reference buffer. • We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.
Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).
Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
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 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,

Target Details

	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.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months