

Product datasheet for **RC227279**

PIP5K1 alpha (PIP5K1A) (NM_001135636) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PIP5K1 alpha (PIP5K1A) (NM_001135636) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PIP5K1 alpha
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC227279 representing NM_001135636
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCGTCGGCCTCTCCGGGCGTCGCTTCGGTCGGTTTTTTCATCCTTTGATCCCGCGGTCCCTTCT
 GTACCTTGTCTCAGCAGCATCTGGAATCAAGAGACCCATGGCATCTGAGGTGCCTTATGCCTCTGGCAT
 GCCCATCAAGAAAATAGGCCATAGAAGTGTGATTCTCAGGAGAGACAACATATAAAAAAGACAACCTCA
 TCAGCCTTGAAAGGTGCCATCCAGTTAGGCATTACCCACACTGTGGGAGCCTGAGTACCAAACAGAGC
 GTGATGTCCTCATGCAAGATTTCTACGTGGTTGAGAGTATCTTCTTTCCAGTGAAGGGAGCAACCTGAC
 CCCTGCTCATCACTACAATGACTTTCGTTTCAAGACCTATGCACCTGTTGCCTCCGCTACTTCCGGGAG
 CTATTTGGTATCCGGCCGATGATTACTTGTATCCCTCTGCAGTGAGCCGCTGATTGAAGTCTGTAGCT
 CTGGAGCTAGTGGTTCCCTATTCTATGTGTCCAGCGACGATGAGTTCATTATTAAGACAGTCCAACATAA
 AGAGGCGGAATTTCTGCAGAAGCTGCTTCCAGGATACTACATGAACCTCAACCAGAACCCTCGGACTTTG
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ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC227279 representing NM_001135636
 Red=Cloning site Green=Tags(s)

MASASSGPSSSVGFSSFDPAVPSCTLSSAASGIKRPMASEVPYASGMPiKKIGHRSVDSSGETTYKKTTS
 SALKGAIQLGITHTVGSLSTKPERDVLMDFYVVEsIFFPSEGSNLTPAHHYNDFRfKTYAPVAFRYFRE
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 LPKFYGLYCVQAGGKNIRIVVMNLLPRSVKMHikYDLKGSTYKRRASQKEREKPLPTFKDLDFLQDIPD
 GLFLDADMYNALCKTLQRDCLVLQSFKIMDYSLLMSIHNIHDAQREPLSSETQYSVDTRRPAPQKALYST
 AMESIQGEARRGGTMDTDDQFVKKLEHSWKALVHDGDTVSVHRPGFYAERFQRFMCNTVFKKIPLKSPS
 KKFRSGSSFRRAGSSGNSCITYQPSVSGEHKAQVTTKAEVEPGVHLGRPDVLPQTPLEEISEGSPiPD
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Chromatograms:

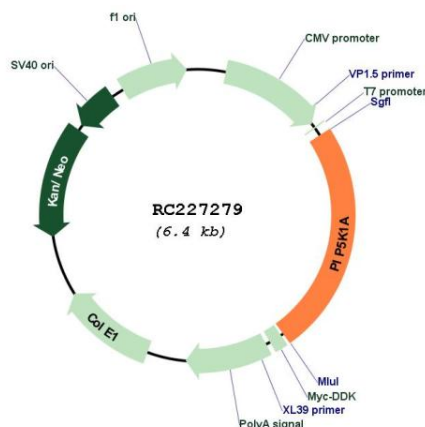
https://cdn.origene.com/chromatograms/mk8065_d03.zip

Restriction Sites:

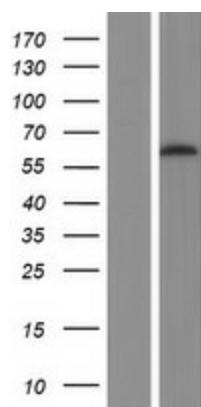
Sgfl-Mlul

Protein Families:	Druggable Genome
Protein Pathways:	Endocytosis, Fc gamma R-mediated phagocytosis, Inositol phosphate metabolism, Metabolic pathways, Phosphatidylinositol signaling system, Regulation of actin cytoskeleton
MW:	57.9 kDa
Gene Summary:	Catalyzes the phosphorylation of phosphatidylinositol 4-phosphate (PtdIns4P) to form phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P ₂). PtdIns(4,5)P ₂ is involved in a variety of cellular processes and is the substrate to form phosphatidylinositol 3,4,5-trisphosphate (PtdIns(3,4,5)P ₃), another second messenger. The majority of PtdIns(4,5)P ₂ is thought to occur via type I phosphatidylinositol 4-phosphate 5-kinases given the abundance of PtdIns4P. Participates in a variety of cellular processes such as actin cytoskeleton organization, cell adhesion, migration and phagocytosis. Required for membrane ruffling formation, actin organization and focal adhesion formation during directional cell migration by controlling integrin-induced translocation of RAC1 to the plasma membrane. Together with PIP5K1C is required for phagocytosis, but they regulate different types of actin remodeling at sequential steps. Promotes particle ingestion by activating WAS that induces Arp2/3 dependent actin polymerization at the nascent phagocytic cup. Together with PIP5K1B is required after stimulation of G-protein coupled receptors for stable platelet adhesion. Plays a role during calcium-induced keratinocyte differentiation. Recruited to the plasma membrane by the E-cadherin/beta-catenin complex where it provides the substrate PtdIns(4,5)P ₂ for the production of PtdIns(3,4,5)P ₃ , diacylglycerol and inositol 1,4,5-trisphosphate that mobilize internal calcium and drive keratinocyte differentiation. Together with PIP5K1C have a role during embryogenesis. Functions also in the nucleus where acts as an activator of TUT1 adenylyltransferase activity in nuclear speckles, thereby regulating mRNA polyadenylation of a select set of mRNAs (PubMed:18288197, PubMed:19158393, PubMed:20660631). Positively regulates insulin-induced translocation of SLC2A4 to the cell membrane in adipocytes (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RC227279



Western blot validation of overexpression lysate (Cat# [LY427639]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC227279 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).