

Product datasheet for **RC219870**

PIP5K1 alpha (PIP5K1A) (NM_003557) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PIP5K1 alpha (PIP5K1A) (NM_003557) 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)



[View online »](#)

ORF Nucleotide Sequence:

>RC219870 representing NM_003557
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGCGTCGGCCTCTCCGGCCGTCGCTTCGGTCGGTTTTTTCATCCTTTGATCCCGCGGTCCCTTCT
 GTACCTTGTCTCAGCATCTGGAATCAAGAGACCCATGGCATCTGAGGTGCCTTATGCCTCTGGCATGCC
 CATCAAGAAAATAGGCCATAGAAGTGTGATTCCTCAGGAGAGACAACATATAAAAAGACAACTCATCA
 GCCTTGAAAGGTGCCATCCAGTTAGGCATTACCCACACTGTGGGAGCCTGAGTACCAAACAGAGCGTG
 ATGTCCTCATGAAGATTCTACGTGGTTGAGAGTATCTTCTTTCCAGTGAAGGGAGCAACCTGACCCC
 TGCTCATCACTACAATGACTTTCGTTTCAAGACCTATGCACCTGTTGCCTTCCGCTACTTCCGGGAGCTA
 TTTGGTATCCGGCCCGATGATTACTTGTATTCCCTCTGCAGTGAGCCGCTGATTGAACCTGTAGCTCTG
 GAGCTAGTGGTCCCTATTCTATGTGTCCAGCGACGATGAGTTCATTATTAAGACAGTCCAACATAAAGA
 GCGGAATTTCTGCAGAAGCTGCTTCCAGGATACTACATGAACCTCAACCAGAACCCTCGGACTTTGCTG
 CCTAAATTCATGGACTGTACTGTGTGCAGGCAGGTGGCAAGAACATTCCGATTGTGGTGTGAACAATC
 TTTTACCAAGATCGGTAAAAATGCATATCAAATATGACCTCAAAGGCTCAACCTACAAACGGCGGGCTTC
 CCAGAAAGAGCGAGAGAAGCCTCTTCCCACATTTAAAGACCTAGACTTCTTACAAGACATCCCTGATGGT
 CTTTTTTGGATGCTGACATGTACAACGCTCTCTGTAAGACCCTGCAGCGTGACTGTTTGGTGCTGCAGA
 GCTTCAAGATAATGGATTATAGCCTCTTGATGTCAATCCATAATATAGATCATGCACAACGAGAGCCCTT
 AAGCAGTGAACACAGTACTCAGTTGATACTCGAAGACCGGCCCCCAAAAGGCTCTGTATTCCACAGCC
 ATGGAATCCATCCAGGGAGAGGCTCGACGGGTGGTACCATGGAGACTGATGACCATATGGTGGCATCC
 CTGCCCGGAATAGTAAAGGGGAAAGGCTTCTGCTTATATTGGCATATTGACATTCTACAGTCTTACAG
 GTTTGTTAAGAAGTTGGAGCACTCTGGAAAGCCCTGGTACATGACGGAGACACTGTCTCAGTGCATCGC
 CCAGGCTTCTACGCTGAACGGTTCAGCGCTTCATGTGCAACACAGTATTTAAGAAGATTCCCTGAAGC
 CTTCTCCTTCAAAAAGTTTCGGTCTGGCTCATCTTCTCTCGGCGAGCAGGCTCCAGTGCCAACCTCTG
 CATTACTTACCAGCCATCGGTCTCTGGGAAACACAAGGCACAAGTGACAACAAAGGCAGAAGTGGAGCCA
 GCGTTCACCTTGGTCGCTGATGTTTTACCTCAGACTCCACCTTTGGAGGAAATCAGTGAAGGCTCGC
 CTATTCTGACCCAGTTTCTCACCTCTGGTTGGAGAGACTTTGCAAATGCTAACTACAAGTACAACCTT
 GAAAAGCTTGAAGTTCAGAGTCAGAGTTCACCCAT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC219870 representing NM_003557
 Red=Cloning site Green=Tags(s)

MASASSGPSSSVGFSSFDPAVPSCTLSSASGIKRPMASEVPYASGMPiKkIGHRSVDSSGETTYKkTSS
 ALKGAIQLGITHVGSLSKPERDVLMDQFYVVEsIFFPSEGSNLTPAHHYNDFRFKTYAPVAFRYFREL
 FGIRPDDYLYSLCSEPLIELCSSGASGSLFYVSSDDEFIiKTVQHKEAEFLQKLLPGYMNLNQNPRTLL
 PKFYGLYCVQAGGKNIRIvVMNLLPRSVKMHIKYDLKGSTYKRRASQKEREKPLPTFKDLDFLQDIPDG
 LFLDADMYNALCKTLQRDCLVLQSFKIMDYSLLMSIHNIHQREPLSSETQYSVDTRRPAPQKALYSTA
 MESIQGEARRGGMETDDHMGGIPARNSKGERLLLIGIIDIILQSYRFVKKLEHSWKALVHDGDTVSVHR
 PGFYAERFQRFMCNTVFKKIPLKPSPKFRSGSSFSRRAGSSGNSCITYQPSVSGEHKAQVTTKAEVEP
 GVHLGRPDVLPQTPPLEEISEGSPiPDPFSPLVGETLQMLTTSTTLEKLEVAESEFTH

TRTRPLEQKLISEEDLAANDILDYKDDDDKv

Chromatograms:

https://cdn.origene.com/chromatograms/mg2876_e02.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_003557

ORF Size: 1647 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_003557.3](#)

RefSeq Size: 3713 bp

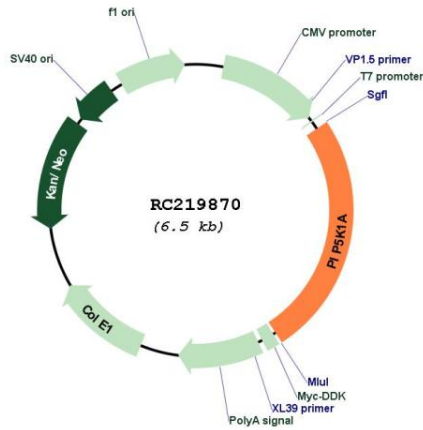
RefSeq ORF: 1650 bp

Locus ID: 8394

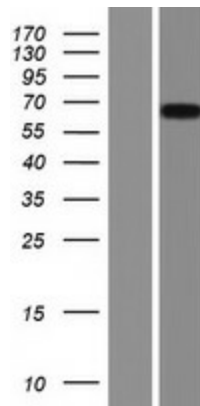
UniProt ID: [Q99755](#)

Cytogenetics:	1q21.3
Domains:	PIP5K
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:	61 kDa
Gene Summary:	<p>Catalyzes the phosphorylation of phosphatidylinositol 4-phosphate (PtdIns4P) to form phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P₂). PtdIns(4,5)P₂ is involved in a variety of cellular processes and is the substrate to form phosphatidylinositol 3,4,5-trisphosphate (PtdIns(3,4,5)P₃), another second messenger. The majority of PtdIns(4,5)P₂ 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)P₂ for the production of PtdIns(3,4,5)P₃, 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]</p>

Product images:



Circular map for RC219870



Western blot validation of overexpression lysate (Cat# [LY418598]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC219870 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).