

## Product datasheet for **RC227501**

### PIP5K1 alpha (PIP5K1A) (NM\_001135637) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PIP5K1 alpha (PIP5K1A) (NM_001135637) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PIP5K1A
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide Sequence:**

>RC227501 representing NM\_001135637  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCGTCGGCCTCCTCCGGCCGTCGCTTCGGTCGGTTTTTTCATCCTTTGATCCCGCGGTCCCTTCCT  
 GTACCTTGTCTCAGCATCTGGAATCAAGAGACCCATGGCATCTGAGGTGCCTTATGCCTCTGGCATGCC  
 CATCAAGAAAATAGGCCATAGAAGTGTGATTCCCTCAGGAGAGACAACATATAAAAAGACAACTCATCA  
 GCCTTGAAAGGTGCCATCCAGTTAGGCATTACCCACACTGTGGGAGCCTGAGTACCAAACAGAGCGTG  
 ATGTCCTCATGCAAGATTCTACGTGGTTGAGAGTATCTTCTTTCCAGTGAAGGGAGCAACCTGACCCC  
 TGCTCATCACTACAATGACTTTTCGTTTCAAGACCTATGCACCTGTTGCCTTCCGCTACTTCCGGGAGCTA  
 TTTGGTATCCGGCCCGATGATTACTTGTATTCCCTCTGCAGTGAAGCCGCTGATTGAACCTGTAGCTCTG  
 GAGCTAGTGGTCCCTATTCTATGTGTCCAGCGACGATGAGTTCATTATTAAGACAGTCCAACATAAAGA  
 GCGGGAATTTCTGCAGAAGCTGCTTCCAGGATACTACATGAACCTCAACCAGAACCCTCGGACTTTGCTG  
 CCTAAATTCATGGACTGTACTGTGTGCAGGCAGGTGGCAAGAACATTCGGATTGTGGTGTGAACAATC  
 TTTTACCAAGATCGGTAAAAATGCATATCAAATATGACCTCAAAGGCTCAACCTACAAACGGCGGGCTTC  
 CCAGAAAGAGCGAGAGAAGCCTCTTCCACATTTAAAGACCTAGACTTCTTACAAGACATCCCTGATGGT  
 CTTTTTTGGATGCTGACATGTACAACGCTCTCTGTAAGACCCTGCAGCGTGACTGTTTGGTGTGCAGA  
 GCTTCAAGATAATGGATTATAGCCTCTTGATGTCAATCCATAATATAGATCATGCACAACGAGAGCCCTT  
 AAGCAGTGAACACAGTACTCAGTTGATACTCGAAGACCGGCCCCCAAAAGGCTCTGTATTCCACAGCC  
 ATGGAATCCATCCAGGGAGAGGCTCGACGGGTGGTACCATGGAGACTGATGACCATATGGTGGCATCC  
 CTGCCCGGAATAGTAAAGGGGAAAAGGCTTCTGCTTATATTGGCATATTGACATTCTACAGTCTTACAG  
 GTTTGTTAAGAAGTTGGAGCACTCTTGGAAAGCCCTGGTACATGACGGAGACACTGTCTCAGTGCATCGC  
 CCAGGCTTCTACGCTGAACGGTTCAGCGCTTCATGTGCAACACAGTATTTAAGAAGATTCCTGCGTTC  
 ACCTTGGTCGTCCTGATGTTTTACCTCAGACTCCACCTTTGGAGGAAATCAGTGAGGGCTCGCTATTCC  
 TGACCCAGTTTCTCACCTCTAGTTGGAGAGACTTTGCAAATGCTAACTACAAGTACAACCTTGGAAAAG  
 CTTGAAGTTGCAGAGTCAGAGTTCACCCAT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC227501 representing NM\_001135637  
 Red=Cloning site Green=Tags(s)

MASASSGPSSSVGFSSFDPAVPSCTLSSASGIKRPMASEVPYASGMPIKIGHRSVDSSGETTYKKTSS  
 ALKGAIQLGITHTVGSLSTKPERDVLMDQFYVVESIFFPSEGNLTPAHYNDFRFKTYAPVAFRYFREL  
 FGIRPDDYLYSLCSEPLIELCSSGASGSLFYVSSDDEFIIKTVQHKEAEFLQKLLPGYYMNLNQNPRLL  
 PKFYGLYCVQAGGKNIRIVVMNLLPRSVKMHKIDYDLKGGSTYKRRASQKEREKPLPTFKDLDFLQDIPDG  
 LFLDADMYNALCKTLQRDCLVLQSFKIMDYSLLMSIHNIDHAQREPLSSETQYSVDTRRPAPQKALYSTA  
 MESIQGEARRGGTMETDDHMGGIPARNKGERLLLYIGIIDILQSYRFVKKLEHSWKALVHDGDTVSVHR  
 PGFYAERFQRFMCNTVFKKIPCVHLGRPDVLPQTPPLEEISEGSPIDPSFSPLVGETLQMLTTSTTLEK  
 LEVAESEFTH

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-Mlul



<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001135637.1</a> , <a href="#">NP_001129109.1</a>
<b>RefSeq ORF:</b>	1503 bp
<b>Locus ID:</b>	8394
<b>UniProt ID:</b>	<a href="#">Q99755</a>
<b>Cytogenetics:</b>	1q21.3
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Endocytosis, Fc gamma R-mediated phagocytosis, Inositol phosphate metabolism, Metabolic pathways, Phosphatidylinositol signaling system, Regulation of actin cytoskeleton
<b>MW:</b>	55.9 kDa
<b>Gene Summary:</b>	<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>