

Product datasheet for **MC201475**

Pip5k1a (NM_008847) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pip5k1a (NM_008847) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Pip5k1a
Synonyms:	PI4P5K-I[a]; PIP5K1-alpha; PIP5KIalpha; Pipk5a
Mammalian Cell Selection:	Neomycin
Vector:	PCMV6-Kan/Neo (PCMV6KN)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >BC031774 sequence for NM_008847
 CCACCCTGAGCCGAGCGGTGGAGTTGGGGATAAACAGGCAGTGGCTGGGGAGGTGAGGGAGGGGGGGCAT
 TCGCTTTTGGGGGCACCTCAGGTGCCTAGGTTTTCTTTAGGTTTGTCTATCCGAGACGCGGGACTCCC
 GGGGCCGGCTCAAGTGTTCCTGTCTGGTAAGAGAAGGTAGCTTTGGCGGAGAGCAGTTCAAGTTGCTAG
 GAAGGTGCGAGACTGCAGCTCTCCCCATGCCGGCAAGTGGTGGCTCCTGAGCTTGTCTGGAGCCTG
 AACACGCCTGTGAGAAGCCCGCAACCGGGTCTGTGAAGAGACGTGGGAAGATTCCGATCCGAGA
 AAAGAAAAGCCGGATTGAAAGGGAGCGAAGCCGCTGAGGGGGAGGGGGCTGCCAAGATGGCGTCCGCCCT
 CCTCAGGGCCAGCGCGCGCGGTTTTTCATCCCTTGATGCCGGGGCCCTGCTGGTACCGCAGCAGCATC
 TGAATCAAGAGAGCCACAGTATCTGAGGGACCTTCCGCCTCTGTGCATGCCTGTTAAAAAATAGGCCAT
 CGAAGTGTGATTCTCTGGAGAGACTACATACAAGAAGACAACCTCATCAGCCTTGAAAGGTGCCATCC
 AGTTAGGCATCACTCACACTGTGGGCAGCCTGAGCACAAACCAGAGCGTGATGCCTCATGCAAGACTT
 CTACGTGGTGGAGAGCATCTTTTCCCCAGTGAAGGCAGCAACCTGACACCGGCTCACCATTACAATGAC
 TTTTCGATTCAAGACCTATGCGCCTGTTGCCTCCGTTACTTCAGAGAGCTCTTGGCATCCGGCCTGATG
 ATTACTTGTACTCCCTTGCAGTGAGCCATTGATTGAACTCTCCAATTCTGGAGCTAGTGGTTCCCTCTT
 CTATGTGTCCAGTGATGATGAATTCATCATTAAAGACCGTCCAGCATAAAGAAGCAGAATTTCTGCAGAAG
 TTGCTTCCAGGATACTACATGAATCTTAAACAAAACCCTCGTACTTTGCTGCCAAAATTTATGGATTGT
 ACTGTGTGCAAGCAGGCGCAAGAACATACGAATTGTGGTGATGAACAATCTCTTGCCTCGGTCAAGTCAA
 AATGCATATGAAATATGACCTGAAGGGTCAACTTACAAGCGCGGGCTTCTCAGAAAGAACGAGAGAAA
 ACTCTCCCACCTTTAAAGACCTGGACTTCTACAAGATATCCCTGACGGCCTATTTTTGGATGCTGACA
 TGTACAGTGTCTGTGTAAGACTCTACAGCGTACTGTTTGGTGTGCAGAGCTTCAAGATAATGGACTA
 CAGCCTGTTGATGTCCATCCACAACATGGACCATGCACAGAGGGAGCCACGAGCAATGACACACAGTAC
 TCGGCTGACACGCGCAGACCAGCCCCACAGAAGGCGCTCTATCCACAGCTATGGAATCCATCCAGGGCG
 AGGCTCGACGGGGCGGCACTGTGGAGACTGAGGACCACATGGGTGGCATCCCTGCCCGGAATAACAAAGG
 AGAAAGGCTCCTGCTTTATATTGGCATATTGATATTCTTCAGTCTACAGGTTTGTAAAGAAGTTGGAG
 CACTCTTGAAAGCACTGGTCCATGATGGGATACGGTGTGAGTGCATCGTCCAGGCTTCTATGCTGAGC
 GGTTCAGCGTTTTCATGTGCAACACAGTGTCAAGAAGATTCCCTTGAAGCCTTCTCCTACCAAAAAGTT
 TCGGTCTGGCCGCTTTTCTCTCGGCGATCAGGCCCCAGCGGCAACTCCTGCACCTCCAGCTGATGGCC
 TCTGGGAAACACAGACACAAGTGACCACCAAGGCGGAAGTGGAGCCAGATGTACACCTTGGGCGTCTG
 ATGTCTTACCTCAGACTCCACCTTTGGAGGAAATAAGTGAAGGTTACCTGTTCTGCCCCAGTTTCTC
 ACCTGTAGTTGGACAACCTTTGCAAATACTAAATTTGAGTTCAACCTTGGAAAAGCTTGATGTTGCAGAG
 TCAGAGTTCACCCACTGAGCAGTGAACCTCAGAAGACCTGAAACAAGACTCTGCTGTCGTTTGATCCCA
 AGATGTACAGCCCTTGCCCAAGGAATGCTGAATCGTCTTGGTATCAACAGAGGAGAGAAATGTGGAGC
 TAGCAGGGCTCTGACACTGTCTCCCTTCTCTGGGCAGTAGTGCTTTGACAGTTGAGGACAGCATCGT
 CCCCACCACTCCAGAAGTGGGTGGCGTGAATTTCCACTGCCTGCCATGGCTTCTATAGCTGAATATTTT
 TCAAACCCCACTTCTTTGTGCTGACATGGGGTGTCTGGACTGGTGGTTTCTCCTGTTTACCTTTCTCT
 GGAGCTGGACTCTTCAATTCCTCAGGACGGACTGGCTGGACATTGTTCTGCCTTGGCTCTCCCGCTGGT
 CTTTGGAGACTCCCAATGATTTGTATAAAGGTGTTGGGGAAAGTAAGGATCATCTTACTCCCAACCT
 TCTTTTCTTAAAAAAAAAAAAAAAAAAAAAAAAA

- Restriction Sites:** RsrII-NotI
- ACCN:** NM_008847
- Insert Size:** 1641 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- 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: [BC031774](#), [AAH31774](#)

RefSeq Size: 2553 bp

RefSeq ORF: 1641 bp

Locus ID: 18720

UniProt ID: [P70182](#)

Cytogenetics: 3 F2.1

Gene Summary:

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:10679324, PubMed:18772378, PubMed:19153220, PubMed:20622009, PubMed:8798574). Positively regulates insulin-induced translocation of SLC2A4 to the cell membrane in adipocytes (PubMed:27739494).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (2) uses an alternate in-frame splice site in the 5' coding region compared to variant 1. The encoded isoform (2) is shorter than isoform 1. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.