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Product datasheet for MR208688L4V

Pip5k1a (NM_008847) Mouse Tagged ORF Clone Lentiviral Particle

Product data:

Product Type:	Lentiviral Particles
Product Name:	Pip5k1a (NM_008847) Mouse Tagged ORF Clone Lentiviral Particle
Symbol:	Pip5k1a
Synonyms:	PI4P5K-I[a]; PIP5K1-alpha; PIP5KIalpha; Pipk5a
Mammalian Cell Selection:	Puromycin
Vector:	pLenti-C-mGFP-P2A-Puro (PS100093)
Tag:	mGFP
ACCN:	NM_008847
ORF Size:	1641 bp
ORF Nucleotide Sequence:	The ORF insert of this clone is exactly the same as(MR208688).
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.
RefSeq:	NM_008847.2
RefSeq Size:	3673 bp
RefSeq ORF:	1641 bp
Locus ID:	18720
UniProt ID:	P70182
Cytogenetics:	3 F2.1

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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]