

## Product datasheet for **TL310416**

### PIP5K1 alpha (PIP5K1A) Human shRNA Plasmid Kit (Locus ID 8394)

#### Product data:

Product Type:	shRNA Plasmids
Product Name:	PIP5K1 alpha (PIP5K1A) Human shRNA Plasmid Kit (Locus ID 8394)
Locus ID:	8394
Vector:	pGFP-C-shLenti (TR30023)
E. coli Selection:	Chloramphenicol (34 ug/ml)
Mammalian Cell Selection:	Puromycin
Format:	Lentiviral plasmids
Components:	PIP5K1A - Human, 4 unique 29mer shRNA constructs in lentiviral GFP vector(Gene ID = 8394). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pGFP-C-shLenti Vector, TR30021, included for free.
RefSeq:	<a href="#">NM_001135636</a> , <a href="#">NM_001135637</a> , <a href="#">NM_001135638</a> , <a href="#">NM_001330689</a> , <a href="#">NM_003557</a> , <a href="#">NM_003557.1</a> , <a href="#">NM_001135636.1</a> , <a href="#">NM_001135637.1</a> , <a href="#">NM_001135638.1</a> , <a href="#">BC007833</a> , <a href="#">NM_001135638.2</a> , <a href="#">NM_001135636.2</a> , <a href="#">NM_003557.3</a>
UniProt ID:	<a href="#">Q99755</a>



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**Summary:**

Catalyzes the phosphorylation of phosphatidylinositol 4-phosphate (PtdIns4P) to form phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P<sub>2</sub>). PtdIns(4,5)P<sub>2</sub> is involved in a variety of cellular processes and is the substrate to form phosphatidylinositol 3,4,5-trisphosphate (PtdIns(3,4,5)P<sub>3</sub>), another second messenger. The majority of PtdIns(4,5)P<sub>2</sub> 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<sub>2</sub> for the production of PtdIns(3,4,5)P<sub>3</sub>, 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]

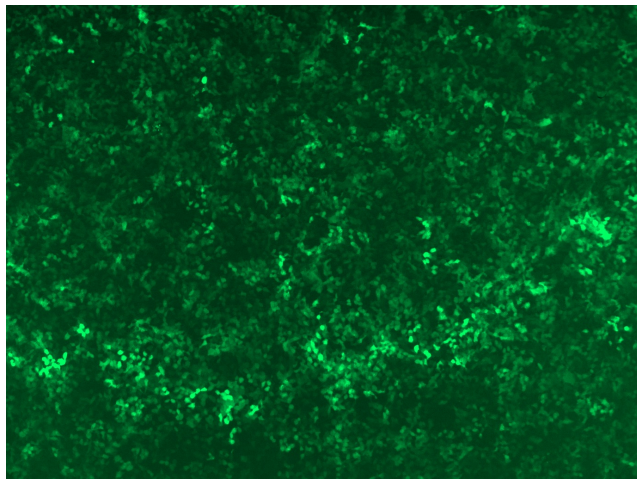
**shRNA Design:**

These shRNA constructs were designed against multiple splice variants at this gene locus. To be certain that your variant of interest is targeted, please contact [techsupport@origene.com](mailto:techsupport@origene.com). If you need a special design or shRNA sequence, please utilize our [custom shRNA service](#).

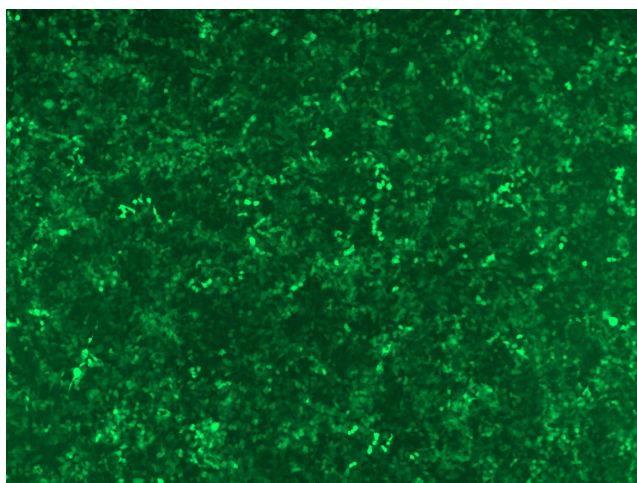
**Performance Guaranteed:**

OriGene guarantees that the sequences in the shRNA expression cassettes are verified to correspond to the target gene with 100% identity. One of the four constructs at minimum are guaranteed to produce 70% or more gene expression knock-down provided a minimum transfection efficiency of 80% is achieved. Western Blot data is recommended over qPCR to evaluate the silencing effect of the shRNA constructs 72 hrs post transfection. To properly assess knockdown, the gene expression level from the included scramble control vector must be used in comparison with the target-specific shRNA transfected samples.

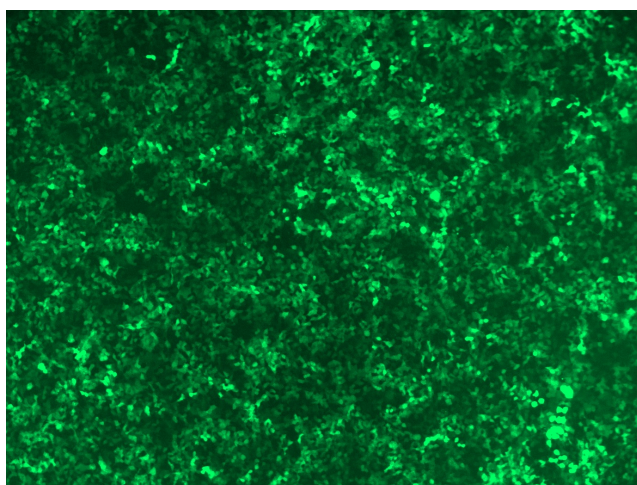
For non-conforming shRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the shRNA kit. To arrange for a free replacement with newly designed constructs, please contact Technical Services at [techsupport@origene.com](mailto:techsupport@origene.com). Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).

**Product images:**

GFP signal was observed under microscope at 48 hours after transduction of TL310416A virus into HEK293 cells. TL310416A virus was prepared using lenti-shRNA TL310416A and [TR30037] packaging kit.



GFP signal was observed under microscope at 48 hours after transduction of TL310416B virus into HEK293 cells. TL310416B virus was prepared using lenti-shRNA TL310416B and [TR30037] packaging kit.



GFP signal was observed under microscope at 48 hours after transduction of [TL310416C] virus into HEK293 cells. [TL310416C] virus was prepared using lenti-shRNA [TL310416C] and [TR30037] packaging kit.