

Product datasheet for **TR505389**

Sgpp1 Mouse shRNA Plasmid (Locus ID 81535)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Sgpp1 Mouse shRNA Plasmid (Locus ID 81535)
Locus ID:	81535
Synonyms:	AI463453; SPP; SPP1; Spph1
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Sgpp1 - Mouse, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 81535). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	BC037592 , NM_030750 , NM_030750.1 , NM_030750.2 , NM_030750.3 , BC026814
UniProt ID:	Q9J199



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Summary:	<p>Specifically dephosphorylates sphingosine 1-phosphate (S1P), dihydro-S1P, and phyto-S1P (PubMed:10859351, PubMed:11756451). Does not act on ceramide 1-phosphate, lysophosphatidic acid or phosphatidic acid. Sphingosine-1-phosphate phosphatase activity is needed for efficient recycling of sphingosine into the sphingolipid synthesis pathway. Regulates the intracellular levels of the bioactive sphingolipid metabolite S1P that regulates diverse biological processes acting both as an extracellular receptor ligand or as an intracellular second messenger (PubMed:10859351, Ref.2). Involved in efficient ceramide synthesis from exogenous sphingoid bases. Converts S1P to sphingosine, which is readily metabolized to ceramide via ceramide synthase (PubMed:12235122, PubMed:17895250). In concert with sphingosine kinase 2 (SphK2), recycles sphingosine into ceramide through a phosphorylation/dephosphorylation cycle (PubMed:17895250). Regulates endoplasmic-to-Golgi trafficking of ceramides, resulting in the regulation of ceramide levels in the endoplasmic reticulum, preferentially long-chain ceramide species, and influences the anterograde membrane transport of both ceramide and proteins from the endoplasmic reticulum to the Golgi apparatus (By similarity). The modulation of intracellular ceramide levels in turn regulates apoptosis (PubMed:12235122). Via S1P levels, modulates resting tone, intracellular Ca(2+) and myogenic vasoconstriction in resistance arteries. Also involved in unfolded protein response (UPR) and ER stress-induced autophagy via regulation of intracellular S1P levels (By similarity). Involved in the regulation of epidermal homeostasis and keratinocyte differentiation (PubMed:23637227).[UniProtKB/Swiss-Prot Function]</p>
shRNA Design:	<p>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. If you need a special design or shRNA sequence, please utilize our custom shRNA service.</p>
Performance Guaranteed:	<p>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.</p> <p>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. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).</p>