

Product datasheet for **TR503141**

Gps2 Mouse shRNA Plasmid (Locus ID 56310)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Gps2 Mouse shRNA Plasmid (Locus ID 56310)
Locus ID:	56310
Synonyms:	AI505953
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Gps2 - Mouse, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 56310). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	BC011317 , NM_019726 , NM_001357906 , NM_019726.1 , NM_019726.2 , NM_019726.3 , BC138879 , BC138880
UniProt ID:	Q921N8

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Summary:

Key regulator of inflammation, lipid metabolism and mitochondrion homeostasis that acts by inhibiting the activity of the ubiquitin-conjugating enzyme UBE2N/Ubc13, thereby inhibiting 'Lys-63'-linked ubiquitination (PubMed:22424771, PubMed:24953653, PubMed:28039360, PubMed:28123943, PubMed:29499132). In the nucleus, can both acts as a corepressor and coactivator of transcription, depending on the context (PubMed:18218630, PubMed:24953653, PubMed:25519902, PubMed:27270589, PubMed:28039360). Acts as a transcription coactivator in adipocytes by promoting the recruitment of PPARG to promoters: acts by inhibiting the activity of the ubiquitin-conjugating enzyme UBE2N/Ubc13, leading to stabilization of KDM4A and subsequent histone H3 'Lys-9' (H3K9) demethylation (PubMed:22666460, PubMed:24953653). Promotes cholesterol efflux by acting as a transcription coactivator (By similarity). Acts as a regulator of B-cell development by inhibiting UBE2N/Ubc13, thereby restricting the activation of Toll-like receptors (TLRs) and B-cell antigen receptors (BCRs) signaling pathways (PubMed:28039360). Acts as a key mediator of mitochondrial stress response: in response to mitochondrial depolarization, relocates from the mitochondria to the nucleus following desumoylation and specifically promotes expression of nuclear-encoded mitochondrial genes (PubMed:29499132). Promotes transcription of nuclear-encoded mitochondrial genes by inhibiting UBE2N/Ubc13 (PubMed:29499132). Can also act as a corepressor as part of the N-Cor repressor complex by repressing active PPARG (PubMed:25519902). Plays an anti-inflammatory role in macrophages and is required for insulin sensitivity by acting as a corepressor (PubMed:27270589). Plays an anti-inflammatory role during the hepatic acute phase response by interacting with sumoylated NR1H2 and NR5A2 proteins, thereby preventing N-Cor corepressor complex dissociation (By similarity). In the cytosol, also plays a non-transcriptional role by regulating insulin signaling and pro-inflammatory pathways (PubMed:22424771, PubMed:28123943). In the cytoplasm, acts as a negative regulator of inflammation by inhibiting the proinflammatory TNF-alpha pathway; acts by repressing UBE2N/Ubc13 activity (PubMed:22424771). In the cytoplasm of adipocytes, restricts the activation of insulin signaling via inhibition of UBE2N/Ubc13-mediated ubiquitination of AKT (PubMed:28123943). Able to suppress G-protein- and mitogen-activated protein kinase-mediated signal transduction (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. 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. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled shRNA control (Western Blot data preferred).