

## **Product datasheet for TR508538**

## **Opn5 Mouse shRNA Plasmid (Locus ID 353344)**

**Product data:** 

**Product Type:** shRNA Plasmids

**Product Name:** Opn5 Mouse shRNA Plasmid (Locus ID 353344)

**Locus ID:** 353344

**Synonyms:** Gpr136; Neuropsin; PGR12; TMEM13

Vector: pRS (TR20003)

E. coli Selection: Ampicillin

Mammalian Cell Puromycin

Selection:

Format: Retroviral plasmids

Components: Opn5 - Mouse, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID =

353344). 5µg purified plasmid DNA per construct

29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.

RefSeq: <u>BC125611, BC132010, NM 181753, NM 181753.1, NM 181753.2, NM 181753.3, NM 181753.4</u>

UniProt ID: Q6VZZ7

**Summary:** G-protein coupled receptor which selectively activates G(i) type G proteins via ultraviolet A

chromophore 11-cis retinal and is a bistable protein that displays emission peaks at 380 nm (UVA light) and 470 nm (blue light) (PubMed:22043319, PubMed:31607531). Required for the light-response in the inner plexiform layer, and contributes to the regulation of the light-response in the nerve fiber layer, via phosphorylated DAT/SLC6A3 dopamine uptake (PubMed:30936473). Involved in local corneal and retinal circadian rhythm photoentrainment via modulation of the UVA light-induced phase-shift of the retina clock (PubMed:26392540, PubMed:30240620). Acts as a circadian photoreceptor in the outer ear and vibrissal pads, via modulation of circadian clock-gene expression in response to violet light during the light-to-dark transition phase and night phase of the circadian cycle (PubMed:31607531). Required in the retina to negatively regulate hyaloid vessel regression during postnatal development via light-dependent OPN5-SLC32A1-DRD2-VEGFR2 signaling (PubMed:30936473). Involved in the

(UVA) light-mediated activation in the retina (PubMed:22043319). Preferentially binds the

light-dependent regulation of retina and vitreous compartment dopamine levels

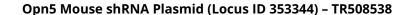
(PubMed:30936473).[UniProtKB/Swiss-Prot Function]



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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 <a href="mailto:techsupport@origene.com">techsupport@origene.com</a>. If you need a special design or shRNA sequence, please utilize our <a href="mailto:custom shRNA service">custom shRNA service</a>.

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).