

## Product datasheet for **TG502077**

### Smn1 Mouse shRNA Plasmid (Locus ID 20595)

#### Product data:

|                           |   |
|---------------------------|---|
| Product Type:             | shRNA Plasmids  |
| Product Name:             | Smn1 Mouse shRNA Plasmid (Locus ID 20595)   |
| Locus ID:                 | 20595   |
| Synonyms:                 | AI849087; Gemin1; Smn   |
| Vector:                   | pGFP-V-RS (TR30007)   |
| E. coli Selection:        | Kanamycin   |
| Mammalian Cell Selection: | Puromycin   |
| Format:                   | Retroviral plasmids   |
| Components:               | Smn1 - Mouse, 4 unique 29mer shRNA constructs in retroviral GFP vector(Gene ID = 20595).<br>5µg purified plasmid DNA per construct<br>29-mer scrambled shRNA cassette in pGFP-V-RS Vector, TR30013, included for free.  |
| RefSeq:                   | <a href="#">BC045158</a> , <a href="#">NM_001252629</a> , <a href="#">NM_011420</a> , <a href="#">NM_011420.1</a> , <a href="#">NM_011420.2</a> , <a href="#">NM_001252629.1</a> ,<br><a href="#">BC037436</a>  |
| UniProt ID:               | <a href="#">P97801</a>  |
| Summary:                  | The SMN complex plays a catalyst role in the assembly of small nuclear ribonucleoproteins (snRNPs), the building blocks of the spliceosome. Thereby, plays an important role in the splicing of cellular pre-mRNAs. Most spliceosomal snRNPs contain a common set of Sm proteins SNRPB, SNRPD1, SNRPD2, SNRPD3, SNRPE, SNRPF and SNRPG that assemble in a heptameric protein ring on the Sm site of the small nuclear RNA to form the core snRNP. In the cytosol, the Sm proteins SNRPD1, SNRPD2, SNRPE, SNRPF and SNRPG are trapped in an inactive 6S pICln-Sm complex by the chaperone CLNS1A that controls the assembly of the core snRNP. Dissociation by the SMN complex of CLNS1A from the trapped Sm proteins and their transfer to an SMN-Sm complex triggers the assembly of core snRNPs and their transport to the nucleus. Ensures the correct splicing of U12 intron-containing genes that may be important for normal motor and proprioceptive neurons development. Also required for resolving RNA-DNA hybrids created by RNA polymerase II, that form R-loop in transcription terminal regions, an important step in proper transcription termination. May also play a role in the metabolism of small nucleolar ribonucleoprotein (snoRNPs).[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 [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).