

## Product datasheet for **TL500161**

### Atp2a2 Mouse shRNA Plasmid (Locus ID 11938)

#### Product data:

|                           |  |
|---------------------------|--|
| Product Type:             | shRNA Plasmids   |
| Product Name:             | Atp2a2 Mouse shRNA Plasmid (Locus ID 11938)  |
| Locus ID:                 | 11938  |
| Synonyms:                 | 9530097L16Rik; D5Wsu150e; mKIAA4195; SERCA2; Serca2a; SERCA2B  |
| Vector:                   | pGFP-C-shLenti (TR30023)   |
| E. coli Selection:        | Chloramphenicol (34 ug/ml)   |
| Mammalian Cell Selection: | Puromycin  |
| Format:                   | Lentiviral plasmids  |
| Components:               | Atp2a2 - Mouse, 4 unique 29mer shRNA constructs in lentiviral GFP vector(Gene ID = 11938).<br>5µg purified plasmid DNA per construct<br>29-mer scrambled shRNA cassette in pGFP-C-shLenti Vector, TR30021, included for free.  |
| RefSeq:                   | <a href="#">BC054531</a> , <a href="#">BC054748</a> , <a href="#">NM_001110140</a> , <a href="#">NM_009722</a> , <a href="#">NR_027838</a> , <a href="#">NM_001110140.1</a> ,<br><a href="#">NM_001110140.2</a> , <a href="#">NM_001110140.3</a> , <a href="#">NM_009722.1</a> , <a href="#">NM_009722.2</a> , <a href="#">NM_009722.3</a> , <a href="#">BC022584</a>  |
| UniProt ID:               | <a href="#">O55143</a>   |
| Summary:                  | This magnesium-dependent enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the sarcoplasmic reticulum lumen. Isoform SERCA2A is involved in the regulation of the contraction/relaxation cycle. Acts as a regulator of TNFSF11-mediated Ca(2+) signaling pathways via its interaction with TMEM64 which is critical for the TNFSF11-induced CREB1 activation and mitochondrial ROS generation necessary for proper osteoclast generation. Association between TMEM64 and SERCA2 in the ER leads to cytosolic Ca (2+) spiking for activation of NFATC1 and production of mitochondrial ROS, thereby triggering Ca (2+) signaling cascades that promote osteoclast differentiation and activation (PubMed:23395171).[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 <a href="mailto:techsupport@origene.com">techsupport@origene.com</a> . If you need a special design or shRNA sequence, please utilize our <a href="#">custom shRNA service</a> .   |



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**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).