

## Product datasheet for **TR301500**

### SMCR8 Human shRNA Plasmid Kit (Locus ID 140775)

#### Product data:

Product Type:	shRNA Plasmids
Product Name:	SMCR8 Human shRNA Plasmid Kit (Locus ID 140775)
Locus ID:	140775
Synonyms:	DENND8A
Vector:	pRS (TR20003)
E. coli Selection:	Ampicillin
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	SMCR8 - Human, 4 unique 29mer shRNA constructs in retroviral untagged vector(Gene ID = 140775). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRS Vector, TR30012, included for free.
RefSeq:	<a href="#">NM_144775</a> , <a href="#">NM_144775.1</a> , <a href="#">NM_144775.2</a> , <a href="#">BC142680</a> , <a href="#">BC001018</a> , <a href="#">BC005067</a> , <a href="#">BC014179</a> , <a href="#">BC040699</a> , <a href="#">BC101115</a> , <a href="#">BC101116</a> , <a href="#">BC101117</a> , <a href="#">NM_144775.3</a>
UniProt ID:	<a href="#">Q8TEV9</a>
Summary:	Component of the C9orf72-SMCR8 complex, a complex that has guanine nucleotide exchange factor (GEF) activity and regulates autophagy (PubMed:20562859, PubMed:27193190, PubMed:27103069, PubMed:27559131, PubMed:27617292, PubMed:28195531). In the complex, C9orf72 and SMCR8 probably constitute the catalytic subunits that promote the exchange of GDP to GTP, converting inactive GDP-bound RAB8A and RAB39B into their active GTP-bound form, thereby promoting autophagosome maturation (PubMed:20562859, PubMed:27103069, PubMed:27617292, PubMed:28195531). The C9orf72-SMCR8 complex also acts as a negative regulator of autophagy initiation by interacting with the ATG1/ULK1 kinase complex and inhibiting its protein kinase activity (PubMed:27617292, PubMed:28195531). Acts as a regulator of mTORC1 signaling by promoting phosphorylation of mTORC1 substrates (PubMed:27559131, PubMed:28195531). In addition to its activity in the cytoplasm within the C9orf72-SMCR8 complex, SMCR8 also localizes in the nucleus, where it associates with chromatin and negatively regulates expression of suppresses ULK1 and WIPI2 genes (PubMed:28195531).[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).