OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for TF513095

Piwil2 Mouse shRNA Plasmid (Locus ID 57746)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Piwil2 Mouse shRNA Plasmid (Locus ID 57746)
Locus ID:	57746
Synonyms:	mili; Piwil1l
Vector:	pRFP-C-RS (TR30014)
E. coli Selection:	Chloramphenicol (34 ug/ml)
Mammalian Cell Selection:	Puromycin
Format:	Retroviral plasmids
Components:	Piwil2 - Mouse, 4 unique 29mer shRNA constructs in retroviral RFP vector(Gene ID = 57746). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pRFP-C-RS Vector, TR30015, included for free.
RefSeq:	NM_021308, NM_021308.1, BC138444, BC145717, NM_001364321, NM_021308.2
UniProt ID:	Q8CDG1

View online »

Summary:

Endoribonuclease that plays a central role during spermatogenesis by repressing transposable elements and preventing their mobilization, which is essential for the germline integrity (PubMed:11578866, PubMed:14736746, PubMed:17446352, PubMed:18381894, PubMed:18922463, PubMed:26669262). Plays an essential role in meiotic differentiation of spermatocytes, germ cell differentiation and in self-renewal of spermatogonial stem cells (PubMed:11578866, PubMed:14736746, PubMed:17446352, PubMed:18381894, PubMed:18922463, PubMed:26669262). Its presence in oocytes suggests that it may participate in similar functions during oogenesis in females (PubMed:11578866, PubMed:14736746, PubMed:17446352, PubMed:18381894, PubMed:18922463, PubMed:26669262). Acts via the piRNA metabolic process, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins and govern the methylation and subsequent repression of transposons (PubMed:11578866, PubMed:14736746, PubMed:17446352, PubMed:18381894, PubMed:18922463, PubMed:26669262). During piRNA biosynthesis, plays a key role in the piRNA amplification loop, also named ping-pong amplification cycle, by acting as a 'slicer-competent' piRNA endoribonuclease that cleaves primary piRNAs, which are then loaded onto 'slicer-incompetent' PIWIL4 (PubMed:22020280, PubMed:23706823, PubMed:26669262). PIWIL2 slicing produces a pre-miRNA intermediate, which is then processed in mature piRNAs, and as well as a 16 nucleotide by-product that is degraded (PubMed:28633017). Required for PIWIL4/MIWI2 nuclear localization and association with secondary piRNAs antisense (PubMed:18381894, PubMed:18922463, PubMed:26669262). Besides their function in transposable elements repression, piRNAs are probably involved in other processes during meiosis such as translation regulation (PubMed:19114715). Indirectly modulates expression of genes such as PDGFRB, SLC2A1, ITGA6, GJA7, THY1, CD9 and STRA8 (PubMed:16261612). Represses circadian rhythms by promoting the stability and activity of core clock components ARNTL/BMAL1 and CLOCK by inhibiting GSK3B-mediated phosphorylation and ubiquitination-dependent degradation of these proteins (PubMed:28903391).[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).