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Product datasheet for TL510469

Piwil4 Mouse shRNA Plasmid (Locus ID 330890)

Product data:

Product Type:	shRNA Plasmids
Product Name:	Piwil4 Mouse shRNA Plasmid (Locus ID 330890)
Locus ID:	330890
Synonyms:	9230101H05Rik; Miwi2
Vector:	pGFP-C-shLenti (TR30023)
E. coli Selection:	Chloramphenicol (34 ug/ml)
Mammalian Cell Selection:	Puromycin
Format:	Lentiviral plasmids
Components:	Piwil4 - Mouse, 4 unique 29mer shRNA constructs in lentiviral GFP vector(Gene ID = 330890). 5µg purified plasmid DNA per construct 29-mer scrambled shRNA cassette in pGFP-C-shLenti Vector, TR30021, included for free.
RefSeq:	NM_177905, NM_177905.1, NM_177905.2, NM_177905.3, BC148393, BC153016, NM_001368831, NM_001368832, NM_001368836
UniProt ID:	Q8CGT6

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Summary:

Plays a central role during spermatogenesis by repressing transposable elements and preventing their mobilization, which is essential for the germline integrity (PubMed:17395546, PubMed:18381894, PubMed:18922463, PubMed:26669262, PubMed:22020280). 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 governs the methylation and subsequent repression of transposons (PubMed:17395546, PubMed:18381894, PubMed:18922463, PubMed:26669262, PubMed:22020280). Directly binds piRNAs, a class of 24 to 30 nucleotide RNAs that are generated by a Dicer-independent mechanism and are primarily derived from transposons and other repeated sequence elements. Associates with secondary piRNAs antisense and PIWIL2/MILI is required for such association (PubMed:17395546, PubMed:18381894, PubMed:18922463, PubMed:26669262, PubMed:22020280). The piRNA process acts upstream of known mediators of DNA methylation (PubMed:17395546, PubMed:18381894, PubMed:18922463, PubMed:26669262, PubMed:22020280). Does not show endonuclease activity (PubMed:22020280). Plays a key role in the piRNA amplification loop, also named ping-pong amplification cycle, by acting as a 'slicer-incompetent' component that loads cleaved piRNAs from the 'slicer-competent' component PIWIL2 and target them on genomic transposon loci in the nucleus (PubMed:22020280). In addition to its role in germline, PIWIL4 also plays a role in the regulation of somatic cells activities. Plays a role in pancreatic beta cell function and insulin secretion (By similarity). Involved in maintaining cell morphology and functional integrity of retinal epithelial through Akt/GSK3alpha/beta signaling pathway (By similarity). [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).