

Product datasheet for **SR421503**

Piwil2 Mouse siRNA Oligo Duplex (Locus ID 57746)

Product data:

Product Type:	siRNA Oligo Duplexes
Purity:	HPLC purified
Quality Control:	Tested by ESI-MS
Sequences:	Available with shipment
Stability:	One year from date of shipment when stored at -20°C.
# of transfections:	Approximately 330 transfections/2nmol in 24-well plate under optimized conditions (final conc. 10 nM).
Note:	Single siRNA duplex (10nmol) can be ordered.
RefSeq:	NM_021308 , NM_001364321
UniProt ID:	Q8CDG1
Synonyms:	mili; Piwil11
Components:	Piwil2 (Mouse) - 3 unique 27mer siRNA duplexes - 2 nmol each (Locus ID 57746) Included - SR30004, Trilencer-27 Universal Scrambled Negative Control siRNA Duplex - 2 nmol Included - SR30005, RNase free siRNA Duplex Resuspension Buffer - 2 ml



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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]

Performance Guaranteed:

OriGene guarantees that at least two of the three Dicer-Substrate duplexes in the kit will provide at least 70% or more knockdown of the target mRNA when used at 10 nM concentration by quantitative RT-PCR when the TYE-563 fluorescent transfection control duplex (cat# SR30002) indicates that >90% of the cells have been transfected and the HPRT positive control (cat# SR30003) provides 90% knockdown efficiency.

For non-conforming siRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the siRNA kit. To arrange for a free replacement with newly designed duplexes, 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 siRNA control (quantitative RT-PCR data required).