

Table S1. siRNA oligonucleotides

	Sequence(5'to3')
<i>Miwi</i> siRNA	5'-UACUUCUGUGACCUUGUGC-3'
<i>Ck137956</i> siRNA (SMARTpool)	5'-CGUAAUGGCUGGUGACGAG-3'
	5'-GGGAAUGGCAUACGCUUUU-3'
	5'-CCUACGACAGUGCCCGAAA-3'
	5'-CAGCUGAGGCUUCGAACCA-3'

Table S2. Gene-specific primers used in qRT-PCR

Gene	Forward primer (5'-3')	Reverse primer (5'-3')
<i>Ck137956</i>	GAACCGGAAGGACACCTGTG	GCACTGTCGTAGGGGAGTTAAA
<i>Miwi</i>	CAGCAACCTGGGTACATCCC	CCAAGGTCATGGAAGTCTCGG
<i>Tssk1</i>	CTCAAGCGACGAGGCTACATC	ACCGCCACGTTGAACTTTAGG
<i>Tssk2</i>	GCGGTCCTAAGGAAGAAGGG	TGACTGCCACATTGAACTTGAG
<i>Prm2</i>	ACAAGACCATGAACGCGAGG	GAGGCTTAGTGATGGTGCCT
<i>Tnp1</i>	ATGTCGACCAGCCGCAAGC	TCACAAGTGGGATCGGTAAT
<i>Tnp2</i>	TCGACACTCACCTGCAAGAC	ATCCTGGAGTGCCTCACTTG
<i>Odf1</i>	CCGCACTGAGTTGTCTTTTGG	GGGTGCATGTATAAGTCACACA
<i>Akap4</i>	GTCAGAAGGCGAGTTAAATCTGG	ATCCCTCCGTCTTAGACTGGT
<i>Ropn1</i>	CTGATCATCCACGCAGAT	ACTTCACACACTATCTTGAG
<i>Prm1</i>	GCCACAAAATTCCACCTGC	CAAGATGTGGCGAGATGCTC
<i>Cabs1</i>	TGTGAACACCACAGATTTGCC	GAAGAGACCGGAGTTGGTGG
<i>pre-Tnp1</i>	ATGTCGACCAGCCGCAAGC	TGTTCCCCTGCTTGCTCAC
<i>pre-Tnp2</i>	TCGACACTCACCTGCAAGAC	TTGCAGTGTTCCCTTGTCCTC
<i>pre-Prm2</i>	ACAAGACCATGAACGCGAGG	AGATGGGCAGCAGCAGCA
<i>pre-Odf1</i>	CCGCACTGAGTTGTCTTTTGG	AGGTCACACCCTCTCCCTTG
<i>pre-Akap4</i>	GTCAGAAGGCGAGTTAAATCTGG	TTTCCTTACCATCTCTGAACCAGAG
<i>pre-Ropn1</i>	CTGATCATCCACGCAGAT	CTCTGTCTACCTCGAGCCA
<i>pre-Prm1</i>	GCCACAAAATTCCACCTGC	AGACTGCCAGTCCCGCACC
<i>pre-Cabs1</i>	TGTGAACACCACAGATTTGCC	ACCCCTCGTGTATGTCTATGTGG

<i>Atr</i>	GAATGGGTGAACAATACTGCTGG	TTTGGTAGCATACTGGCGA
<i>BC026590</i>	AAAGTGGCAAAGCCATTCAAAG	TCCATCAATCGACCTCTAACACA
<i>Gfpt1</i>	GAAGCCAACGCCTGCAAATC	CCAACGGGTATGAGCTATTCC
<i>Mdc1</i>	GTGGCTCCTTGGGGTATAGTG	GGGCTTCGACCAACTACATTC
<i>Ppp1cb</i>	GATGTCGTCCAGGAAAGATTGT	TCAGTGGTGCTTCCAATTCCA
<i>Psm8</i>	GACAGGGCAATCACCGTCTTC	CGAGAGCGCAGATTTTCCTCA
<i>Tox4</i>	TCCCGGAGGAAATGACAATTACC	GTGAGGGATCAGAGTCCAAGG

Table S3. piRNA specific primers used in qRT-PCR

piRNA	Specific forward primer (5'-3')
piR-mmu-1	TGACATGAACACAGGTGCTCAGATAGCTTT
piR-mmu-17	TGCAAGGTGTCTTATGGGATTTGAAGTGT
piR-mmu-39	TGCAAGTGCGCTGACTTCCATTGGCACGAT
piR-mmu-59	TGCAAGTTGCTGGCTGTCGGATCTTAAA
piR-mmu-232	AAATGTACAGTGGTGACTACATACTTGC
piR-mmu-1937865	TATTGTTCTATGTTTTGTTGACTTGCGTTT
piR-mmu-1933172	TATCTGAAAAGGCTAGGAGGGCTAATCAG
piR-mmu-1930853	TATAGATACTGTTGCTTAATACTGAGCAC
piR-mmu-1928652	TATAAAAAGATATGTTTGCTTACCCTGA
piR-mmu-1927772	TAGTGCCTATGGGGTCTTACACAGAAAG

Table S4. Antibodies used in this study

Antibodies	Brand	Cat No.	RRID
anti-Ck137956	Abclonal	custom-made	-
anti-PIWIL1	Abcam	ab12337	AB_470241
anti-ACTIN	Abways	AB0033	-
anti-GAPDH	Abways	AB0036	-
anti-H4	Abcam	ab31830	AB_1209246
anti-HA	Sigma	H6908	AB_260070
anti-DDDDK-Tag	MBL	PM020	AB_591224
anti- β -TUBULIN	Abclonal	AC021	AB_2773004
anti-RPS3	Proteintech	11990-1-AP	AB_2180758
anti-MSY2	Proteintech	13538-1-AP	AB_2241777
anti-SYCP3	Proteintech	23024-1-AP	AB_11232426
anti- γ H2AX	Abcam	ab26350	AB_470861
anti-MVH	Proteintech	51042-1-AP	AB_2092998
anti-LINE-1 ORF1p	Novus Biologicals	NBP2-66934	-
Anti-HDAC1	Santa Cruz	sc-81598	AB_2118083
Peanut Agglutinin (PNA), Rhodamine	VECTORLABS	RL-1072	AB_2336642
Donkey Anti-Mouse IgG H&L (Alexa Fluor® 555)	Abcam	ab150106	AB_2857373
Goat Anti-Rabbit IgG H&L (Alexa Fluor® 555)	Abcam	ab150078	AB_2722519
Goat Anti-Mouse IgG H&L (Alexa Fluor® 488)	Abcam	ab150113	AB_2576208
Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)	Abcam	ab150077	AB_2630356
Goat anti-Mouse IgG (H+L) Secondary Antibody, HRP	Invitrogen	31430	AB_228307
Goat anti-Rabbit IgG (H+L) Secondary Antibody, HRP	Invitrogen	65-6120	AB_2533967