

Product datasheet for **MG222848**

Piwil1 (NM_021311) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Piwil1 (NM_021311) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Piwil1
Synonyms:	MIWI
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG222848 representing NM_021311
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGACTGGCCGAGCCGAGCTCGGGCCCGCGGCAGGGCAGAGGTCAGGAGACGGTGCAGCATGTTGGGG
 CTGCTGCGAGCCAGCAACCTGGGTACATCCCACGAGACCTCAACAGTCCCCACAGAGGGGACTTGGT
 TGGCCGAGGACGACAGAGGGGATGGTAGTCGGAGCCACATCCAAGTCACAAGAAGTGCAGATCTCAGT
 GGGTTTCAGGAGCTGTCCTGGCAGAGAGAGGAGGGCGTCGCGGAGACTTCCATGACCTTGGTGTGAACA
 CCAGACAGAACCTTGACCATGTCAAAGAGTCAAAGACAGGCTCCTCTGGCATCATTGTGAAGCTGAGCAC
 CAACCACTTCCGGCTGACCTCGCGCCACAGTGGGCCCTGTATCAGTACCACATCGACTACAATCCCCTG
 ATGGAGGCCCGAAGGCTTCGCTCCGCACTGCTCTTCCAGCATGAAGACCTCATTGGAAGGTGCATGCTT
 TCGATGGGACAATATTGTTTTTACCTAAGAGACTACAGCACAAGGTCACAGAAGTATTAGTCAGACTCG
 GAATGGGGAACAGTGAAGATCACCATCACCCTGACCAACGAGCTGCCGCCACCTCGCCACCTGCCTG
 CAGTTCTATAACATCATCTTCAGGAGGCTCTTGAAAATCATGAATTTGCAACAAATTGGACGGAATTATT
 ACAATCCAAGTGACCCGATTGATATTCCAACACAGGTTGGTGTATCTGGCCCGGCTTACCACCTCCAT
 CCTTCAGTATGAGAACACATCATGCTCTGCACAGACGTCAGCCACAAGGTGCTCCGACGAGACTGTC
 CTAGACTTCATGTTCAATCTATACCAGCAGACAGAGGAGCACAAGTTCAGGAGCAAGTGTGCAAGGAGC
 TCATAGGCCTCATCGTTCTACCAAGTACAATAACAAGACCTACCGGGTGGATGACATTGACTGGGACCA
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 TACAACAGGAGATCACGGACCTGAAGCAGCCGGTGTGGTGAAGCAACCAAGCGGAGGAGAGGCCCGG
 GCGGACCCCTGCCTGGCCAGCTATGCTCATCCCTGAACCTGCTATCTCACAGGCTGACTGATAAAAT
 GCGCAATGATTTCAATGTGATGAAGGACCTGGCAGTGCACACGCGGCTGACCCCTGAGCAGCGGCAGCGG
 GAGGTGGGCCGCTCATCGACTACATCCACAAGGATGACAATGTGCAGAGAGAGCTTCGAGACTGGGGCC
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 CAGAACAGAAGCTTATCTGAGAGCCTTGACAGCAGAAGGTGACGTCAGACACTCAGATAGTTGTCTGTCTC
 TTGTCAAGTAATCGGAAGGACAAATATGATGCCATCAAGAAGTACTTGTGTACAGACTGCCCCACCCCAA
 GTCAGTGTGGTGGCCCGGACCCTGGCAAGCAGCAAACAGTCATGGCCATTGCCACCAAGATCGCCCT
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 GGCATCGACTGTTACCATGACACCACAGCTGGGCGGAGGTCCATCGCAGGATTTCGTGCCAGCATCAATG
 AAGGGATGACCCGCTGGTTCTCCCGCTGCGTCTTTCAGGACCGCGGGCAGGAGCTGGTGGATGGTCTCAA
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 GCCTCAAGTCAGTCGGGAGAGGTTACAACCAAGACTGACTGTAATCGTGGTGAAGAAGCGTGTCAATGC
 CAGGTTTTTTGCTCAGTCTGGGGGAAGACTTCAGAACCCTCTTCCAGGGACAGTCATCGATGTGGAAGTC
 ACCAGACCAGAGTGGTATGACTTTTTTCATCGTGAAGCAGGCAAGTGAAGAAGCGGGAGTGTGTCCCAACAC
 ACTACAATGTCATCTATGACAGCAGTGGCCTGAAGCCCGACCACATCCAGCGGCTGACATACAAGCTCTG
 CCACGTGTAATAATTGGCCTGGAGTCAATCCAGTCCCTGCACCTTGCCAGTATGCACACAAGCTGGCC
 TTCCTCGTGGCCAGAGCATCCACAGAGAGCCAAACCTCTCCCTGTCCAACCGCCTACTACTCTC

ACGGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG222848 representing NM_021311
Red=Cloning site Green=Tags(s)

MTGRARARARGRARGQETVQHVGAASQQPGYIPPRPQQSPTGDLVGRGRQGMVVGATSKSQELQISA
GFQELSLAERGGRRRDFHDLGVNTRQNL DHVKESKTGSSGIIVKLSTNHFRLTSRPQWALYQYHIDYNPL
MEARRLSALLFQHEDLIGRCHAFDGTILFLPKRLQHKVTEVFSQTRNGEHVRITITLTNELPPTSPTCL
QFYNIIFRRLKIMNLQQIGRNYNPSDPIDIPNHRLVIWPGFTTSILQYENNIMLCTDVSHKVL RSETV
LDFMFNL YQQTEEKHFQEVSKEIIGLIVLTKYNNKTYRVDDIDWDQNPSTFKKADGSEVSFLEYRQK
YNQEITDLKQPVLSQPKRRRGPGGTLPGPAMLIPELCYLTGLTDKMRNDFNVMKDLAVHTRLTPEQRQR
EVGRLIDYIHKDDNVQRELRDWGLSFDSNLLSFSGRILQSEKIHQGGKTFDYNPQFADWSKETRGAPLIS
VKPLDNWLLIYTRRNYEAANSLIQNLFKVT PAMGIQMKKAIMIEVDDRTEAYLRALQQKVTSDTQIVVCL
LSSNRKDYDAIKKYLCTDCPTPSQCVVARTLGKQQTVMATKIALQMNCKMGGELWRVDMPLKLAMIV
GIDCYHDTTAGRRSIAGFVASINEGMTRWF SRCVFQDRGQELVDGLKVCLQAALRAWSGCNEYMP SRVIV
YRDGVGDGQLKTLVNYEVPQFLDCLKSVGRGYNPRLTVIVVKKRVNARFFAQSGGRLQNPLPGTVIDVEV
TRPEWYDFFIVSQAVRSGSVSPHYNVIYDSSGLKPDHIQRLTYKLCHVYYNWPGVIRVPAPCQYAHKLA
FLVQSQSIHREP NLSLSNRLYYL

TRTRPLE - GFP Tag - V

Restriction Sites: Sgfl-MluI

ACCN:	NM_021311
ORF Size:	2586 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. More info
OTI Annotation:	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	<ol style="list-style-type: none">1. Centrifuge at 5,000xg for 5min.2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.3. Close the tube and incubate for 10 minutes at room temperature.4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	NM_021311.3 , NP_067286.1
RefSeq Size:	3944 bp
RefSeq ORF:	2589 bp
Locus ID:	57749
UniProt ID:	Q9JMB7
Cytogenetics:	5 67.86 cM

Gene Summary:

Endoribonuclease that plays a central role in postnatal germ cells by repressing transposable elements and preventing their mobilization, which is essential for the germline integrity (PubMed:11578866, PubMed:22121019, PubMed:21237665). 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:11578866, PubMed:22121019, PubMed:21237665). Directly binds methylated 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 (PubMed:11578866, PubMed:22121019, PubMed:21237665). Strongly prefers a uridine in the first position of their guide (g1U preference, also named 1U-bias) (PubMed:24757166). Not involved in the piRNA amplification loop, also named ping-pong amplification cycle (PubMed:22121019). Acts as an endoribonuclease that cleaves transposon messenger RNAs (PubMed:22121019). Besides their function in transposable elements repression, piRNAs are probably involved in other processes during meiosis such as translation regulation (PubMed:16938833). Probable component of some RISC complex, which mediates RNA cleavage and translational silencing (PubMed:16938833). Also plays a role in the formation of chromatoid bodies and is required for some miRNAs stability (PubMed:16787948). Required to sequester RNF8 in the cytoplasm until late spermatogenesis; RNF8 being released upon ubiquitination and degradation of PIWIL1 (PubMed:28552346).[UniProtKB/Swiss-Prot Function]