

## Product datasheet for **MG226512**

### Rtel1 (NM\_001166666) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Rtel1 (NM_001166666) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Rtel1
Synonyms:	AI451565; AW540478; Rtel
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG226512 representing NM_001166666 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGCCAGGGTAGTCTGAATGGTGTGACAGTGGATTTTCTTTCCAGCCCTACCCATGCCAACAGGAAT  
ATATGACCAAGGTGCTAGAATGTCTCCAGAAGAAAGTGAATGGCATCCTGGAGAGCCCCACAGGCACTGG  
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AAGATTGCTGAGAGATTCAAGGGGAATCTTTGCCAGTCGGACCTTGTATCCTGGGGAGTGTGCTG  
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CCAGCTAACTCAGGTATCCGTGAGCTTCGGAATACCGCCTACCGGCCAAGGTATGTGTCTGGGCTCC  
CGGGAGCAGCTGTGATTATCATCTGAAGTGAAGAAGCAGGAGAGTAATCATGCAGATCAGTTTGTGCC  
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GAGATGCAGATTCCATCCCAGTCTGTCTGGAGAATCCACACATCATTGACAAGAACCAGCTCTGGGTGG  
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ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

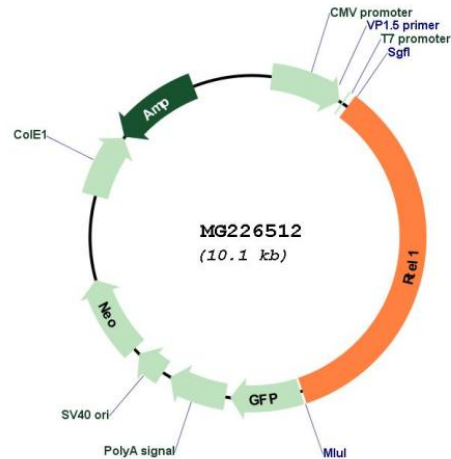
**Protein Sequence:** >MG226512 representing NM\_001166666  
 Red=Cloning site Green=Tags(s)

MPRVVLNGVTVDFFPQPYPCCQEQYMTKVLECLQKKNVNGILESPGTGKTLCLLCSTLAWQQHLRDAVSSL  
 KIAERVQGELFASRTLSSWGSAAAASGDSIECYTDIPKIIYASRTHSQLTQVIRELRNTAYRPKVCVLGS  
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 YNEQKAGASEEQALGSSTPSLRCEKRLSTEQKGRKRVRLVNHPEPMAGTQAGRAKMFVAVKALSQA  
 NFDFTTQALQHYKSSDDFEALVASLTCLFAEDPKKHTLLKGFYQFVRPHHKQQFEDICFQLTGRCGYQP  
 AHFSKPGHTSHCTKVGCAVEKPGQPAVSDYLSVHKALGSASCNQLTAALRAYKQDDLDKVVAVVAALT  
 TAKPEHLPLLQRFGMFVRRHHPQLQTCADLMGLPTTGKDLLELEGRDESPTVPPELTHEDLKPGPSMS  
 KKPEKTQSKISSFFRQRPDESVRSDDTTPKPMQLPRLPHELMKPHRSKQ

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI  
**Cloning Scheme:**



**Plasmid Map:**


**ACCN:** NM\_001166666

**ORF Size:** 3510 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:**

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\\_001166666.1](#), [NP\\_001160138.1](#)

**RefSeq Size:** 4334 bp

**RefSeq ORF:** 3513 bp

**Locus ID:** 269400

**UniProt ID:** [Q0VGM9](#)

**Cytogenetics:** 2 H4

**Gene Summary:**

ATP-dependent DNA helicase implicated in telomere-length regulation, DNA repair and the maintenance of genomic stability. Acts as an anti-recombinase to counteract toxic recombination and limit crossover during meiosis. Regulates meiotic recombination and crossover homeostasis by physically dissociating strand invasion events and thereby promotes noncrossover repair by meiotic synthesis dependent strand annealing (SDSA) as well as disassembly of D loop recombination intermediates. Also disassembles T loops and prevents telomere fragility by counteracting telomeric G4-DNA structures, which together ensure the dynamics and stability of the telomere.[UniProtKB/Swiss-Prot Function]