

## Product datasheet for **RN217571**

### **Rtel1 (NM\_001191857) Rat Untagged Clone**

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Rtel1 (NM\_001191857) Rat Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Rtel1  
**Synonyms:** RGD1306721  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >RN217571 representing NM\_001191857  
**Red**=Cloning site **Blue**=ORF **Orange**=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGCCAGGGTAGTCCTGAATGGTGTGACAGTGGATTTCCCTTCCAGCCCTACCCATGCCAGCAGGAAT  
ATATGACCAAGGTGCTAGAATGTCTCCAGAAGAAAGTGAATGGCATCCTCGAGAGCCCACTGGCACTGG  
GAAGACGCTATGCCTCCTCTGCACTACATTGGCCTGGCGGAACATCTCCGAGATGCCGTTTCTTCCCTA  
AAGATTGCTGAGAGAGTTCAAGGGAACTTTGCCAGTCGGACCTTGTCATCCTGGAGGAGTGTGCTGTG  
ATGCCAATGGAGACTCAATAGATTGCTACACAGATATCCCAAAGATCATCTATGCTTCTAGAACTCACTC  
ACAGCTAACTCAGGTCATCGGTGAGCTTCGGAATACTTCTACCGGCCCAAGGTGTGTGTGCTGGCTCC  
CGGGAGCAGCTGTGTATTCATCCCGAAGTGAAGAAGCAAGAGAGTAACCATGCAGATCAGTTTGTGCC  
GTAAGAAGGTGGCAAGTCGCTCCTGTCAATTTCTACAACAATGTGGAAGAGAAAAGCCTGGAGCAAGAGCT  
GGCTACCCCATCTTGGATATTGAGGACCTTGTAAGAACGGAAGCAAACACAAAGTGTGCCATACTAC  
CTCTCTCGAAACCTGAAGCAGCAAGCTGATATCATCTTTATGCCATACAATTACTTGTGGATGCTAAGA  
GATATGTGAGGAGTCAGCCTCCTTTGACTTGACTCCCGAGATGTGGCTTCAGGACTGGAGGTTATCAAC  
CAGGTTTTGGAGGAGCAAGCCCGGTGGCTCAGCATGGTGAACCTCAACAGGAGTTCATTATAGACACGT  
CCAGCTCAGGTCTCAACATGGAGCTGGAAGACATCGCAAAGTTGAAGATGATCCTGCTGCACCTGGAGGA  
GGCTATTGATGCTGTTACAGTGCCTGGGGATGACAGAGGAGTCACCAAACCTGGAAGCTACATCTTCGAG  
CTGTTTGTGAAGCACAATAACATTTCAAACCAAGGCTGCATTTTGGAGTCGCTGGACCAGATAATCC  
AGCACCTGACAGGACGCACTGGTGTGTTACCAACACGGCTGGGTGCAGAAGCTCATGGACATTATCCA  
GATTGTGTTGAGCGTGGACCTCTGGAAGGCAGCCCTGGTCTCAGGTGGGGCTGGGTAGCTCACATTTCC  
TATAAGGTACACATACACCTGAAACCAGCCACCGGAGAGCAGCTCAGCGGTGATGCCTGGAGTACCA  
CTGCATCCAGGAAACAAGGGAAGGTGCTGAGCTATTGGTCTTCACTCCAGCCACAGCATGCGTGAAGT  
GGTCCAGCAAGGAGTCCGTACCTTATCCTCACCAGTGGTACACTGGCTCCGCTGTCTTCTTTGCTCTG  
GAGATGCAAAATCCATCCAGTCTGTCTGGAGAATCCACACATCATTGACAAGAACCAGCTCTGGGTAG



GGGTTATCCCCAGAGGACCTGATGGTGTTCAGCTAAGCTCTGCCTATGACAAAAGGTTTTCTGAAGAGTG  
CTTATCTTCCCTGGGGAAGGCTCTGGGCAACATTGCTCGTGTGGTGCCCATGGGCTTCTGGTCTTCTTC  
CCTTCTACCCTGTCATGGAGAAAAGCCTGGAGTTCTGGCAGGCGCAAGGCATGTCCAAAAGGTAGAGG  
CACTGAAGCCTCTATTCTGGAACCCAGGAACAAAGGCAGCTTCTCAGAGGTCATTGATGCCTACTACCA  
GCAAGTTGCCCTCCCCTGGGTCTAATGGGGCCACCTTCTTAGCAGTGTGTCGAGGAAAGGCCAGTGAAGGG  
CTGGACTTCTCAGACATGAATGGTCTGGTGTGATTGTACGGGCCTCCCATATCCCCACGCATGGATC  
CCCGTGTATCCTCAAGATGCAGTTCTTGGATGAGATGAAAGGCCGGAGTAGGGTTGGAGGCCAGTGCCT  
CTCTGGACAGGAATGGTACCAGCAACAAGCATCCAGGGCTGTGAACCAGGCTATTGGGAGGTTATCCGA  
CACCGCCATGACTATGGGGCCATCTTCTTATGTGACCACAGGTTTGCCTATGCTGATGCCAGGGCCCATC  
TGCCCTCTGGGTGCGCCCTACCTCAAGGTGTATGACAACCTTTGGCCGTGTCATCCGAGATGTGGCCCA  
GTTCTTCCGTGTTGCTCAGAAAGCTATGCCTTTGCCAGTTCCTCAGGCTGTGACCTCAAGTGTGAGTGAG  
GGAGAAGTGTGTCAAGGAGGCCACATTGTCCAGCCACTCCCTCTCCACCAGGAAAGCCATGAGCTTGG  
ATGTGCATGTGCCAGCCTGAGGCGGAGGCCCGTAGGATTACCGACTGCTGGAGACTCCGAGAGCAGCGT  
ATGTGTGGAGTATGAGCAGCAGACATTTCTGCCAGAAGAGACCCATGGGGCTGCTAGTGCCTTAGAG  
TACAACGAGCAGAAGGCTGGGGCATCTGAGGAGCAGGCACTCAGCTCCTCCACCCATCTCTCCGGTGTG  
AAAAGAGGCTGTCCGTTGAGCAAAGAGGAGGAAAGAAAGTCAAGGCTGGTCAACCATCCGGAGGAACC  
AGTGGCTGGCACACAGGCAGGCAGAGCCAAGATGTTTATGGTGGCCGTGAAGCAAGCACTGAGCCAAGCT  
AACTTTGACACCTTTACCAGGCCCTGCAGCACTATAAGATTCTGATGACTTTGAAGCCTAGTGGCCT  
CTCTCACCTGCCTTTTGTGAAGACCCCAAGAAACACACCCTACTTAAAGGTTTCTACCAGTTTGTACG  
ACCCACACCAAGCAGCAGTTTGGAGACATCTGCTTCCAGCTAACAGGCCAACGATGTAGCTACCAGCCA  
GGAAACAGCCTTCCCTTTGGAGAGCAAGCACAGTCAACTGCCAGTAAGCAAGGAAGGAGAGAGCTGGAAT  
CTAAACTGACCTTGTCTGAAGGTGCAGTAGGCAGCTGGATCCTGGAGAGCACCTGAATCAGGGGTGGCC  
TCACCTGTCTACCCATCTAACCTCCAAAGGAGACACCAGCAATTGTCCAAAAGTGGGATGTGTGGGAGAA  
AAACCTGGCCAGCCTGCTGTGAATGACTACCTATCTGACGTCCACAAAGCTCTGGGATCTGCAAGCTGCA  
ACCAGTTACGGCAGCTCTGAGGCATACAAACAGGATGATGACCTGGACAAAGTCTGGCTGTGGTGGC  
AGCATTGACCACTGCAAAACCTGAACACTTATCTTTGCTACAGAGATTTGGCATGTTTATACGTCGGCAT  
CATAAGCCTCGTGTGTACAGACCTGTGCAGACCTAATGGGCCTACCTACCATAGGCAAGGGCTTGGAGC  
TCCCATGTCCCAGGGATGAGAGTACAACGTGCCTTCTGAGCTTACTCATGAGGACATGAAACCAGGGCC  
CTCGACGTCCAAGAAACCTGAGAAGACCCAGAGTAAGATCTCATCCTTCTTAGACAGAGGCCAGACCAG  
AGTGCAGGTCTGATGATACCATAATGCAGCTTCTCCAGACTACCCCTGAACACACGACGTCTCAGT  
GGATTTTGTATGCCAGCCTGTGCAACTGAGGATACAGTCTTTCCAGTGCCTTCTCTGTGACTTCTG  
CCGCTGCCGGCCCTGCTGGCAACGTCAACTCCAGGCCTTAGACTGTGTCCAGCTTGTGGTGTCTGTTAAC  
AGGAAGCAGAGCATTGCACAGGTCATCTGGCCGAAGCCCCAGTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** Sgfl-Mlul

**ACCN:** NM\_001191857

**Insert Size:** 3825 bp

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**OTI Annotation:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.

**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\\_001191857.1](#), [NP\\_001178786.1](#)

**RefSeq Size:** 4237 bp

**RefSeq ORF:** 3825 bp

**Locus ID:** 362288

**UniProt ID:** [Q5RJZ1](#)

**Cytogenetics:** 3q43

**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]