

Product datasheet for **RR217571**

Rtel1 (NM_001191857) Rat Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Rtel1 (NM_001191857) Rat Tagged ORF Clone
Tag: Myc-DDK
Symbol: Rtel1
Synonyms: RGD1306721
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RR217571 representing NM_001191857
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCCGGATCGCC

ATGCCAGGGTAGTCCTGAATGGTGTGACAGTGGATTTCCCTTCCAGCCCTACCCATGCCAGCAGGAAT
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 ATGCCAATGGAGACTCAATAGATTGCTACACAGATATCCCAAAGATCATCTATGCTTCTAGAACTCACTC
 ACAGCTAACTCAGGTCATCGGTGAGCTTCGGAATACTTCTACCGGCCCAAGGTGTGTGTCTGGCTCC
 CGGGAGCAGCTGTGATTCATCCCGAAGTGAAGAAGCAAGAGAGTAACCACATGCAGATCAGTTTGTGCC
 GTAAGAAGGTGGCAAGTCGCTCCTGTCAATTTCTACAACAATGTGGAAGAGAAAAGCCTGGAGCAAGAGCT
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 CTCTCTCGAAACCTGAAGCAGCAAGCTGATATCATCTTTATGCCATACAATTACTTGTGGATGCTAAGA
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 CCAGCTCAGGTCTCAACATGGAGCTGGAAGACATCGCAAAGTTGAAGATGATCCTGCTGCACCTGGAGGA
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 GGTCCAGCAAGGAGTCCGTACCCTTATCCTCACCAGTGGTACACTGGCTCCGCTGTCTTCTTTGCTCTG
 GAGATGCAAAATCCATCCAGTCTGTCTGGAGAATCCACACATCATTGACAAGAACCAGCTCTGGGTAG



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GGGTTATCCCCAGAGGACCTGATGGTGTTCAGCTAAGCTCTGCCTATGACAAAAGGTTTTCTGAAGAGTG
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ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RR217571 representing NM_001191857
 Red=Cloning site Green=Tags(s)

MPRVVLNGVTVDFFPQPYPCCQEYMTKVLECLQKKVNGILESPGTGKTLCLLCTTLAWREHLRDAVSSL
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 YKVIHPETSHRRAAQRSDAWSTTASRKQGVLSYWCSPSHSMRELVQQGVRTLILTSGLTAPLSSFAL
 EMQIPFPVCLENPHIIDKNQLWVGVI PRGPDGVQLSSAYDKRFSEECLSSLGKALGNIARVVPHGILLVFF
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 GEA AVKEATLSSHSLSTRKAMSLDVHVPSLRPRPVGLPTAGDSESSVCVEYEQQTFSAQKRPMLLALE
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 HKPRFVQTCADLMGLPTIGKLELPCPRDESTTVPSELTHEDMKPGPSTSKKPEKTQSKISSFLRQRPDQ
 SARSDDTIMQLPPRLPPEHTTSQWNFVCPACATEDTVLFQCPSCDFCRACRACWQRQLQASRLCPACGAVN
 RKQSI AQVIWPKPQ

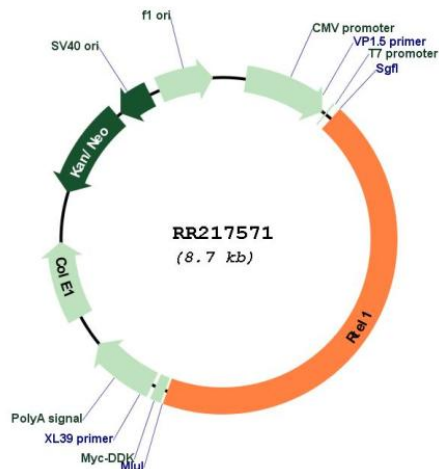
TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_001191857

ORF Size: 3822 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_001191857.1](#), [NP_001178786.1](#)

RefSeq Size: 4237 bp

RefSeq ORF: 3825 bp

Locus ID: 362288

UniProt ID: [Q5RJZ1](#)

Cytogenetics: 3q43

MW: 141.8 kDa

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]