

## Product datasheet for **RG214670**

### **RAD17 (NM\_133343) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	RAD17 (NM_133343) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	RAD17
Synonyms:	CCYC; HRAD17; R24L; RAD17SP; RAD24
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG214670 representing NM\_133343  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAATCAGGTAACAGACTGGGTTGACCCATCATTGATGATTTTCTAGAGTGTAGTGGCGTCTCTACTA  
 TTAAGTCCACATCATTAGGTGTGAATAACTCAAGTCATAGAAGAAAAATGGGCCTTCTACATTAGAAAAG  
 CAGCAGATTTCCAGCGAGAAAAAGAGGAAATCTATCTTCTTAGAACAGATTTATGGTTTAGAAAATTCA  
 AAAGAATATCTGTCTGAAAATGAACCATGGGTGGATAAATAAAACCAGAAACTCAGCATGAACTTGCTG  
 TGCATAAAAAGAAAATTGAAGAAGTCGAAACCTGGTTAAAAGCTCAAGTTTTAGAAAAGGCAACCAAAAACA  
 GGGTGGATCTATTTTATAAACAGGTCCTCCTGGATGTGAAAAGACAACGACCTTAAAAATACTATCA  
 AAGGAGCATGGTATTCAAGTACAAGAGTGGATTAATCCAGTTTTACCAGACTTCCAAAAAGATGATTTCA  
 AGGGGATGTTTAACTGAATCAAGCTTCCATATGTTTCCCTATCAGTCTCAGATAGCAGTTTTCAAGA  
 GTTTCTACTAAGAGCGACAAAAGTATAACAAGTTACAAATGCTTGGAGATGATCTGAGAAGTATAAGAAG  
 ATAATTCTGGTTGAAGATTTACCTAACCGTTTTATCGGGATTCTCATACTTTACATGAAGTTCTAAGGA  
 AGTATGTGAGGATTGGTCGATGTCCTTATATTTATAATCTCGGACAGTCTCAGTGGAGATAAATATCA  
 AAGGTTATTGTTCCCAAAGAAATTCAGGAAGAGTGTCTATCTCAAATATTAGTTTCAACCCTGTGGCA  
 CCAACAATTATGATGAAATTTCTTAATCGAATAGTGACTATAGAAGCTAACAAAGAAATGGAGGAAAAATTA  
 CTGTCCCTGACAAAACCTCTCTAGAGTTGCTCTGTGAGGATGTTCTGGTGATATCAGAAGTGAATAAA  
 CAGCCTCCAGTTTTCTTCTTCAAAGGAGAAAAACACTACGGCCAAGGAAAAAGGAATGTCTTTAAAA  
 TCAGATGCTGTGCTGTCAAATCAAACGAAGAAAAAACCTGATAGGGTTTTGAAAATCAAGAGGTCC  
 AAGCTATTGGTGGCAAAGATGTTTCTCTGTTTCTTTCAGAGCTTTGGGAAAAATCTATATTGTAAAAG  
 AGCATCTTTAACAGAATTAGACTCACCTCGGTTGCCCTCTCATTATCAGAATATGAACGGGATACATTA  
 CTTGTTGAACCTGAGGAGGTAGTAGAAATGTCACACATGCCTGGAGACTTATTTAATTTATATCTTACC  
 AAAACTACATAGATTTCTCATGGAAATGATGATATTGTGAGAGCCAGTGAATTTCTGAGTTTTGCAGA  
 TATCCTCAGTGGTGACTGGAATACACGCTCTTACTCAGGGAATATAGCACATCTATAGCTACGAGAGGT  
 GTGATGCATCCAACAAAGCCCGAGGATATGCTCATTGCCAAGGAGGAGGATCAAGTTTTCGACCCTTGC  
 ACAAACCTCAGTGGTTTCTAATAAATAAAAAGTATCGGGAAAATGCCTGGCAGCAAAAGCACTTTTTCC  
 TGACTTCTGCCTACCAGCTTTATGCCTCAAACCTCAGCTATTGCCATACCTTGCTCTACTAACCATTCCA  
 ATGAGAAATCAAGCTCAGATTTCTTTTATCCAAGATATTGGAAGGCTCCCTCTGAAGCGCACTTTGGAA  
 GATTGAAAATGGAAGCCCTGACTGACAGGGAACATGGAATGATAGACCCTGACAGCGGAGATGAAGCCCA  
 GCTTAATGGAGGACATTCTGCAGAGGAATCTCTGGGTGAACCCACTCAAGCCACTGTGCCGAAACCTGG  
 TCTCTTCTTTGAGTCAGAATAGTGCCAGTGAAGTGCCTGCTAGCCAGCCCCAGCCCTTTTCAGCCCAAG  
 GAGACATGGAAGAAAACATAATAATAGAAGACTACGAGAGTGTGGGACA

**ACGCGT**ACGCGGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG214670 representing NM\_133343  
 Red=Cloning site Green=Tags(s)

MNQVTDWVDPFDDFLECSGVSTITATSLGVNNSSHRRKNGPSTLESSRFPARKRGNLSSLEQIYGLNS  
 KEYLSENEPWVDKYKQPETQHELAVHKKKIEEVETWLKAQVLERQPKQGGSELLITGPPGCGKTTTLKILS  
 KEHGIQVQEWINPVLPDFQKDDFKGMFNTSSFHMFPYQSQIAVFKFLLRATKYNKQLMLGDDLRTDCK  
 IILVEDLPNQFYRDSHTLHEVLRKYVVRIGRCLIFIIISDSLSGDNNQRLFPKEIQEECSISNISFPVA  
 PTIMMKFLNRIVTIEANKNGGKITVPDKTSLELLCQCGSGDIRSAINSLQFSSSKGENNLRPRKKGMSLK  
 SDAVLSKSKRRKKPDRVFNQEQVAIGGKDVSLFLFRALGKILYCKRASLTELDSRPLPSHLSEYERDTL  
 LVEPEEVEMSHMPGDLFNLYLHQNYIDFFMEIDDIIVRASEFLSFADILSGDWNTRSLREYSTSIATRG  
 VMHSNKARGYAHCQGGSSFRPLHKPWFLINKKYRENCLAAKALFPDFCLPALCLQQLPYLALLTIP  
 MRNQAQISFIQDIGRLPLKRHFGRLEKMEALTDREHGMIDPDSGDEAQLNGGHSAAEESLGEPTQATVPETW  
 SLPLSQNSASELPASQPQPFSAQGDMEENIIIEDYESDGT

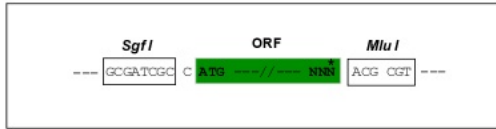
TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Restriction sites and GFP tag sequence:

**EcoRI** **BamHI** **KpnI** **RBS** **Kozac Consensus** **SgfI** **AscI**

CTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCCCGCGGATCGCCGCGCCGAGATCT

**HindIII** **NheI** **RsrII** **MluI** **NotI** **XhoI** **GFP Tag**

CAAGCTTAACCTAGCTAGCGGACCG ACG CGT ACG CGG CCG CTC GAG ATG GAG AGC GAC - - - - -

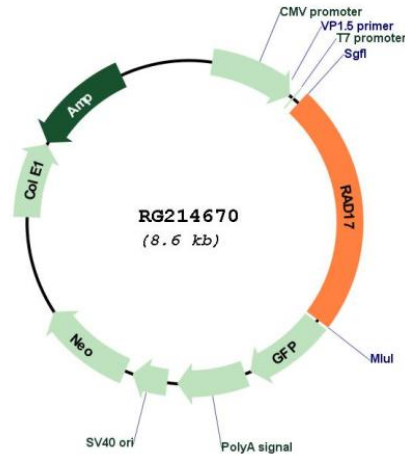
T R T R P L E M E S D - - - - -

**PmeI** **FseI**

- - - GAA GAA AGA GTT TAA ACGGCCGGCCGGGAGCT

- - - E E R V Stop

## Plasmid Map:



ACCN: NM\_133343

ORF Size: 2010 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\\_133343.1](#), [NP\\_579921.1](#)

RefSeq Size: 3010 bp

RefSeq ORF: 2013 bp

Locus ID: 5884

UniProt ID: [O75943](#)

Cytogenetics: 5q13.2

Protein Families: Druggable Genome

**Gene Summary:** The protein encoded by this gene is highly similar to the gene product of *Schizosaccharomyces pombe rad17*, a cell cycle checkpoint gene required for cell cycle arrest and DNA damage repair in response to DNA damage. This protein shares strong similarity with DNA replication factor C (RFC), and can form a complex with RFCs. This protein binds to chromatin prior to DNA damage and is phosphorylated by the checkpoint kinase ATR following damage. This protein recruits the RAD1-RAD9-HUS1 checkpoint protein complex onto chromatin after DNA damage, which may be required for its phosphorylation. The phosphorylation of this protein is required for the DNA-damage-induced cell cycle G2 arrest, and is thought to be a critical early event during checkpoint signaling in DNA-damaged cells. Multiple alternatively spliced transcript variants of this gene, which encode four distinct protein isoforms, have been reported. Two pseudogenes, located on chromosomes 7 and 13, have been identified. [provided by RefSeq, Jul 2013]