

Product datasheet for **RG218333**

RAD51 (NM_002875) Human Tagged ORF Clone

Product data:

| | |
|--------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | RAD51 (NM_002875) Human Tagged ORF Clone |
| Tag: | TurboGFP |
| Symbol: | RAD51 |
| Synonyms: | BRCC5; FANCR; HRAD51; HsRad51; HsT16930; MRMV2; RAD51A; RECA |
| Vector: | pCMV6-AC-GFP (PS100010) |
| E. coli Selection: | Ampicillin (100 ug/mL) |
| Cell Selection: | Neomycin |
| ORF Nucleotide Sequence: | >RG218333 representing NM_002875 Red=Cloning site Blue=ORF Green=Tags(s) |

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**GCGATCGCC**

ATGGCAATGCAGATGCAGCTTGAAGCAAATGCAGATACTTCAGTGAAGAAGAAAGCTTTGGCCACAAC
CCATTTACGGTTAGAGCAGTGTGCATAAATGCCAACGATGTGAAGAAATTGGAAGAAGCTGGATTCCA
TACTGTGGAGGCTGTTGCCTATGCGCCAAAGAAGGAGCTAATAAATATTAAGGGAATTAGTGAAGCCAAA
GCTGATAAAATCTGGCTGAGGCAGCTAAATTAGTTCCAATGGGTTTCACCACTGCAACTGAATCCACC
AAAGGCGGTGAGAGATCATAAGATTACTACTGGCTCCAAAGAGCTTGACAACTACTTCAAGGTGGAAT
TGAGACTGGATCTATCACAGAAATGTTTGGAGAATTCGAACTGGGAAGACCCAGATCTGTCATACGCTA
GCTGTCACCTGCCAGCTTCCCATGACCGGGTGGAGGTGAAGGAAAGGCCATGTACATTGACACTGAGG
GTACCTTTAGGCCAGAACGGCTGCTGGCAGTGGCTGAGAGGTATGGTCTCTCTGGCAGTGATGTCCTGGA
TAATGTAGCATATGCTCGAGCGTTCAACACAGACCACCAGACCAGCTCCTTTATCAAGCATCAGCCATG
ATGGTAGAATCTAGGTATGCACTGCTTATTGTAGACAGTGCACCGCCCTTTACAGAACAGACTACTCGG
GTCGAGGTGAGCTTTCAGCCAGGCAGATGCACTTGCCAGGTTTCTGCGGATGCTTCTGCGACTCGCTGA
TGAGTTTGGTGTAGCAGTGGTAATCACTAATCAGGTGGTAGCTCAAGTGGATGGAGCAGCGATGTTTGCT
GCTGATCCAAAAAACCTATTGGAGGAAATATCATCGCCATGCATCAACAACCAGATTGTATCTGAGGA
AAGGAAGAGGGGAAACCAGAATCTGCAAAATCTACGACTCTCCCTGTCTTCTGAAAGCTGAAGCTATGTT
CGCCATTAATGCAGATGGAGTGGAGATGCCAAAGAC

ACCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >RG218333 representing NM_002875
 Red=Cloning site Green=Tags(s)

MAMQMQLLEANADTSVEEESFGPQPISRLEQCGINANDVKKLEEAGFHTVEAVAYAPKKELINIKGISEAK
 ADKILAEAAKLVPMGFTTATEFHQRSEIIQITGSKELDKLLQGGIETGSITEMFGEFRTGKTQICHTL
 AVTCQLPIDRGGGEGKAMYIDTEGTFRPERLLAVAERYGLSGSDVLDNVAYARAFNTDHQTQLLYQASAM
 MVESRYALLIVDSATALYRTDYSGRGELSARQMHLARFLRMLRLLADEFVAVVITNQVVAQVDGAAMFA
 ADPKKPIGGNIIAHASTTRLYLKRGGETRICKIYDSPCLPEAEAMFAINADGVGDAKD

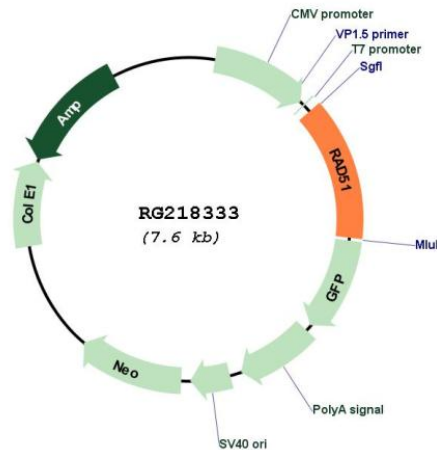
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_002875

ORF Size: 1017 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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_002875.5](#)

RefSeq Size: 2254 bp

RefSeq ORF: 1020 bp

Locus ID: 5888

UniProt ID: [Q06609](#)

Cytogenetics: 15q15.1

Protein Families: Druggable Genome, Stem cell - Pluripotency, Transcription Factors

Protein Pathways: Homologous recombination, Pancreatic cancer, Pathways in cancer

Gene Summary:

The protein encoded by this gene is a member of the RAD51 protein family. RAD51 family members are highly similar to bacterial RecA and *Saccharomyces cerevisiae* Rad51, and are known to be involved in the homologous recombination and repair of DNA. This protein can interact with the ssDNA-binding protein RPA and RAD52, and it is thought to play roles in homologous pairing and strand transfer of DNA. This protein is also found to interact with BRCA1 and BRCA2, which may be important for the cellular response to DNA damage. BRCA2 is shown to regulate both the intracellular localization and DNA-binding ability of this protein. Loss of these controls following BRCA2 inactivation may be a key event leading to genomic instability and tumorigenesis. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Aug 2009]