

## Product datasheet for **RC218333**

### **RAD51 (NM\_002875) Human Tagged ORF Clone**

#### Product data:

Product Type:	Expression Plasmids
Product Name:	RAD51 (NM_002875) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	RAD51
Synonyms:	BRCC5; FANCR; HRAD51; HsRad51; HsT16930; MRMV2; RAD51A; RECA
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC218333 representing NM_002875 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGC**C

ATGGCAATGCAGATGCAGCTTGAAGCAAATGCAGATACTTCAGTGAAGAAGAAAGCTTTGGCCACAAC  
 CCATTTACGGTTAGAGCAGTGTGGCATAAATGCCAACGATGTGAAGAAATTGGAAGAAGCTGGATTCCA  
 TACTGTGGAGGCTGTTGCCTATGCGCCAAAGAAGGAGCTAATAAATATTAAGGGAATTAGTGAAGCCAAA  
 GCTGATAAAATTCTGGCTGAGGCAGCTAAATTAGTTCCAATGGGTTTCACCACTGCAACTGAATTCACC  
 AAAGGCGGTGAGAGATCATAAGATTACTGGCTCCAAAGAGCTTGACAACTACTTCAAGGTGGAAT  
 TGAGACTGGATCTATCACAGAAATGTTTGGAGAATTCCGAAGTGGGAAGACCCAGATCTGTACATACGCTA  
 GCTGTACCTGCCAGCTTCCCATTTGACCGGGTGGAGGTGAAGGAAAGGCCATGTACATTGACACTGAGG  
 GTACCTTTAGGCCAGAACGGCTGCTGGCAGTGGCTGAGAGGTATGGTCTCTCTGGCAGTGATGTCCTGGA  
 TAATGTAGCATATGCTCGAGCGTTCAACACAGACCACCAGACCAGCTCCTTTATCAAGCATCAGCCATG  
 ATGGTAGAATCTAGGTATGCACTGCTTATTGTAGACAGTGCCACCGCCCTTTACAGAACAGACTACTCGG  
 GTCGAGGTGAGCTTTCAGCCAGGCAGATGCACTTGGCCAGGTTTCTGCGGATGCTTCTGCGACTCGCTGA  
 TGAGTTTGGTGTAGCAGTGGTAATCACTAATCAGTGGTAGCTCAAGTGGATGGAGCAGCGATGTTTGCT  
 GCTGATCCCAAAAACCTATTGGAGGAAATATCATCGCCATGCATCAACAACCAGATTGTATCTGAGGA  
 AAGGAAGAGGGGAAACCAGAATCTGCAAAATCTACGACTCTCCCTGTCTTCTGAAGCTGAAGCTATGTT  
 CGCCATTAATGCAGATGGAGTGGGAGATGCCAAAGAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA


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**Protein Sequence:** >RC218333 representing NM\_002875  
 Red=Cloning site Green=Tags(s)

MAMQMQLLEANADTSVEEESFGPQPISRLEQCGINANDVKKLEEAGFHTVEAVAYAPKKELINIKGISEAK  
 ADKILAEAAKLVPMTTATEFHQRRSEIIQITGSKELDKLLQGGIETGSITEMFGEFRTGKTQICHTL  
 AVTCQLPIDRGGGEGKAMYIDTEGTFRPERLLAVAERYGLSGSDVLDNVAYARAFNTDHQTQLLYQASAM  
 MVESRYALLIVDSATALYRTDYSGRGELSARQMHLARFLRMLRLADEFGVAVVITNQVVAQVDGAAMFA  
 ADPKPIGGNIIAHASTTRLYLKGRGETRICKIYDSPCLPEAEAMFAINADGVGDAKD

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mg3842\\_e01.zip](https://cdn.origene.com/chromatograms/mg3842_e01.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_002875

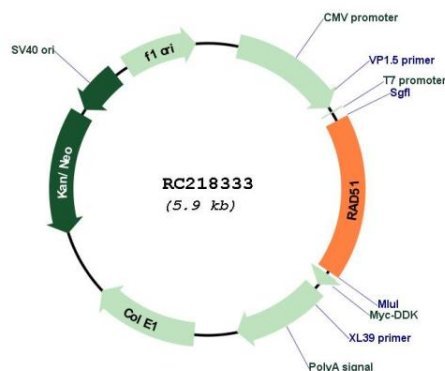
**ORF Size:** 1017 bp

**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](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

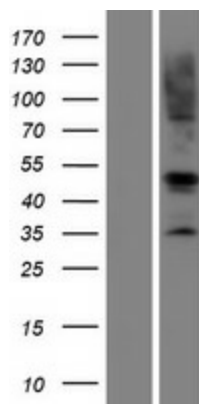
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<u><a href="#">NM_002875.5</a></u>
<b>RefSeq Size:</b>	2254 bp
<b>RefSeq ORF:</b>	1020 bp
<b>Locus ID:</b>	5888
<b>UniProt ID:</b>	<u><a href="#">Q06609</a></u>
<b>Cytogenetics:</b>	15q15.1
<b>Protein Families:</b>	Druggable Genome, Stem cell - Pluripotency, Transcription Factors
<b>Protein Pathways:</b>	Homologous recombination, Pancreatic cancer, Pathways in cancer
<b>MW:</b>	36.8 kDa
<b>Gene Summary:</b>	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]

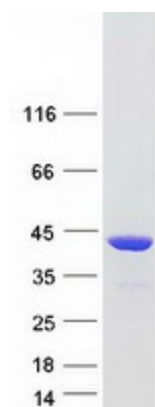
## Product images:



Circular map for RC218333



Western blot validation of overexpression lysate (Cat# [LY419044]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218333 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified RAD51 protein (Cat# [TP318333]). The protein was produced from HEK293T cells transfected with RAD51 cDNA clone (Cat# RC218333) using MegaTran 2.0 (Cat# [TT210002]).