

## Product datasheet for **RG228212**

### **RAD51 (NM\_001164270) Human Tagged ORF Clone**

#### Product data:

Product Type:	Expression Plasmids
Product Name:	RAD51 (NM_001164270) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	RAD51
Synonyms:	BRCC5; FANCR; HRAD51; HsRad51; HsT16930; MRMV2; RAD51A; RECA
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG228212 representing NM_001164270 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCAATGCAGATGCAGCTTGAAGCAAATGCAGATACTTCAGTGAAGAAGAAAGCTTTGGCCACAAC  
CCATTTACGGTTAGAGCAGTGTGGCATAAATGCCAACGATGTGAAGAAATTGGAAGAAGCTGGATTCCA  
TACTGTGGAGGCTGTTGCCTATGCGCCAAAGAAGGAGCTAATAAATATTAAGGGAATTAGTAAGCCAAA  
GCTGATAAAATTCTGGCTGAGGCAGCTAAATTAGTTCCAATGGGTTTCACCACTGCAACTGAATTCACC  
AAAGGCGGTGAGAGATCATAAGATTACTACTGGCTCCAAGAGCTTGACAACTACTTCAAGGTGGAAT  
TGAGACTGGATCTATCACAGAAATGTTTGGAGAATTCCGAAGTGGGAAGCCAGATCTGTCATACGCTA  
GCTGTCACCTGCCAGCTTCCATTGACCGGGTGGAGGTGAAGGAAAGGCCATGTACATTGACACTGAGG  
GTACCTTTAGGCCAGAACGGCTGCTGGCAGTGGCTGAGAGGTATGGTCTCTGCGAGTGATGTCCTGGA  
TAATGTAGCATATGCTCGAGCGTTCAACACAGACCACCAGACCAGCTCCTTTATCAAGCATCAGCCATG  
ATGGTAGAATCTAGGTATGCACTGCTTATTGTAGACAGTGCCACCGCCCTTTACAGAACAGACTACTCGG  
GTCGAGGTGAGCTTTCAGCCAGGCAGATGCACTTGCCAGGTTTCTGCGGATGCTTCTGCGACTCGCTGA  
TGAGATTGTATCTGAGGAAAGGAAGAGGGGAAACCAGAATCTGCAAAATCTACGACTCTCCCTGTCTTCC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG228212 representing NM\_001164270  
 Red=Cloning site Green=Tags(s)

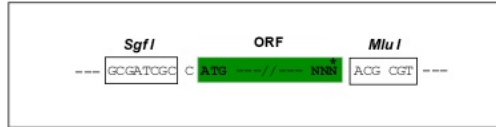
MAMQMQLLEANADTSVEEESFGPQPISRLEQCGINANDVKKLEEAGFHTVEAVAYAPKKELINIKGISEAK  
 ADKILAEAAKLVPMGFTTATEFHQRSEIIQITTGSKELDKLLQGGIETGSITEMFGEFRTGKTQICHTL  
 AVTCQLPIDRGGGEGKAMYIDTEGTFRPERLLAVAERYGLSGSDVLDNVAYARAFNTDHQTQLLYQASAM  
 MVESRYALLIVDSATALYRTDYSRGGEL SARQMHLARFLRMLLRRLADEIVSEERKRGNQNLQNLRLSLSS

TRTRPLE - GFP Tag - V

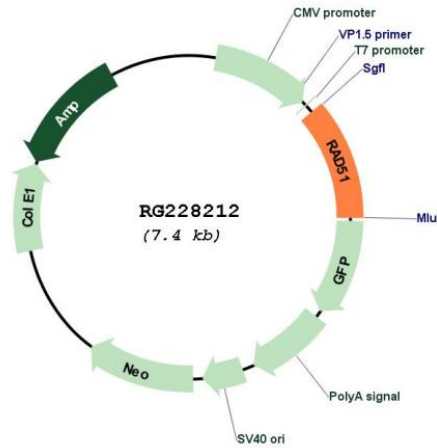
**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shutting:



**Plasmid Map:**



**ACCN:** NM\_001164270

**ORF Size:** 840 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<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>RefSeq:</b>	<a href="#">NM_001164270.2</a>
<b>RefSeq Size:</b>	2177 bp
<b>RefSeq ORF:</b>	843 bp
<b>Locus ID:</b>	5888
<b>UniProt ID:</b>	<a href="#">Q06609</a>
<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>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]