

## Product datasheet for **MR229637**

### Rad51c (NM\_001291440) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Rad51c (NM\_001291440) Mouse Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** Rad51c  
**Synonyms:** R51H3; Rad51I2  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**ORF Nucleotide Sequence:** >MR229637 representing NM\_001291440  
**Red=Cloning site Blue=ORF Green=Tags(s)**

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGCTGTACAGGGTTCACTTGGCCTGGCTACCGTCTCCGCGTCTCCGGCCTCTTTTTTTGTTTTGTGTT  
CACTGTCAGGCTATATCCGAAACGTGACTCGGACGAGTAACTAGAAGACAACCTTACATGAAACCAGT  
GTGTGGGATTTCTCAGCAGCAGCAAGGCCTCAAGTTGGGATATCTAAAGAGGAAGCCTTGAAACTCTA  
CAAATCTAAGAAGAGAATGTCTCAAAATAAACCAAGATGTGCCGTACATCTGTGGCAAACGAGAAGT  
GCACAGCACTGGAACCTCTCGAGCAAGAGCATACCCAGGGCTTCATAATCACCTTCTGTTCACTCGA  
TAACATTTCTGGGGTGAATACCCCTAATGAAGACGACAGAAGTTTGTGGTGTACCAGGTGTTGGAAAA  
ACACAGTTATGTATGCAATTGGCAGTAGATGTGCAGATTCAGAATGTTTTGGGGCGTGGCCGGTGAAG  
CAGTATTTATTGATACAGAGGGAAGTTTATGTTGATAGAGTGGTCAGCCTTGCACCTGCCTGCATTCA  
GCACCTTCATCTCATAGCAGGAACACACCGGAAGAAGAACATCAGAAAGCCTTGAAGGATTTACTCTT  
GAAAAATTTCTTCCCATATTTATTTTCGTTGTCATGATTATACTGAGCTGCTGGCACAAGTCTATC  
TCCTTCCAGATTTCTTTCAGATCATCCAAAGGTGCAGTAGTGATAATAGACGGAATGCTTTTTCCCTT  
TCGTCATGACCTTGAAGATCTATCCCTTCGTAAGTAACTAAATGGCCTCGCCCAACAAATGATCAGC  
CTTGCAAATAATCACAGATTAGCTGTTATTTAACTAATCAGATGACAACAAAGATTGATAAAAAATCAAG  
CTTTGCTTGTTCCTGCATTAGGGGAAAGCTGGGGCATGCTGCTACAATAAGGCTCATTTTTCACTGGGA  
ACAAAAGCAAAGATTTGCAACATTGTACAAGTCACCAAGCCAGAAGGAGTCTACGATACCATTTTCAGATC  
ACACCTCAGGGATTTAGAGACGCTGTTGTCAGTCTGCTCATCACAGACAGAGATTCTTTGAATTTCC  
GGAACCGTCCAGAGAACAGAGGAAGAATGC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >MR229637 representing NM\_001291440  
 Red=Cloning site Green=Tags(s)

MLYRVHLAWLPSRRLRPLFLFLCSLSGYIRNVTRTSETRRQPVMKPVCGISSAAARPQVGISKEEALET  
 QILRRECLTNKPRCAGTSVANEKCTALELLEQEHTQGFIITFCSALDNILGGGIPLMKTTEVCGVPGVGK  
 TQLCMQLAVDVQIPECFGGVAGEAVFIDTEGSFMVDRVSLATACIQHLHLIAGHTHEEHQKALKDFTL  
 ENILSHIYYFRCHDYTELLAQVYLLPDFLSDHPKVQLVIDGIAFPFRHDLEDLSLRTRLLNGLAQQMIS  
 LANNHRLAVILTQMTTKIDKNQALLVPALGESWGHAATIRLIFHWEQKQRFATLYKSPSQKESTIPFQI  
 TPQGRDAVVTAASSQTESSLNFRKRSREPEEEC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

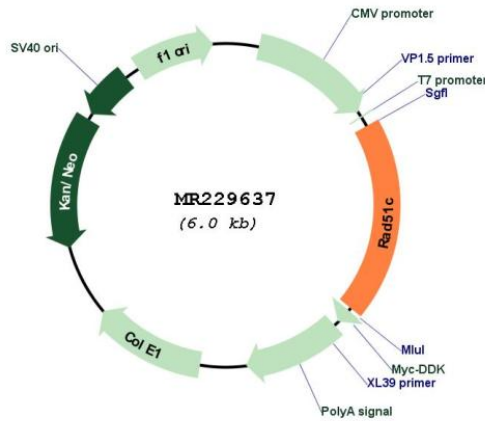
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM\_001291440

<b>ORF Size:</b>	1152 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_001291440.2</a>
<b>RefSeq Size:</b>	3122 bp
<b>RefSeq ORF:</b>	1155 bp
<b>Locus ID:</b>	114714
<b>UniProt ID:</b>	<a href="#">Q924H5</a>
<b>Cytogenetics:</b>	11 52.08 cM
<b>MW:</b>	43.5 kDa

**Gene Summary:**

Essential for the homologous recombination (HR) pathway of DNA repair. Involved in the homologous recombination repair (HRR) pathway of double-stranded DNA breaks arising during DNA replication or induced by DNA-damaging agents. Part of the RAD21 paralog protein complexes BCDX2 and CX3 which act at different stages of the BRCA1-BRCA2-dependent HR pathway. Upon DNA damage, BCDX2 seems to act downstream of BRCA2 recruitment and upstream of RAD51 recruitment; CX3 seems to act downstream of RAD51 recruitment; both complexes bind predominantly to the intersection of the four duplex arms of the Holliday junction (HJ) and to junction of replication forks. The BCDX2 complex was originally reported to bind single-stranded DNA, single-stranded gaps in duplex DNA and specifically to nicks in duplex DNA. The BCDX2 subcomplex RAD51B:RAD51C exhibits single-stranded DNA-dependent ATPase activity suggesting an involvement in early stages of the HR pathway. Involved in RAD51 foci formation in response to DNA damage suggesting an involvement in early stages of HR probably in the invasion step. Has an early function in DNA repair in facilitating phosphorylation of the checkpoint kinase CHEK2 and thereby transduction of the damage signal, leading to cell cycle arrest and HR activation. Participates in branch migration and HJ resolution and thus is important for processing HR intermediates late in the DNA repair process; the function may be linked to the CX3 complex. Part of a PALB2-scaffolded HR complex containing BRCA2 and which is thought to play a role in DNA repair by HR. Protects RAD51 from ubiquitin-mediated degradation that is enhanced following DNA damage. Plays a role in regulating mitochondrial DNA copy number under conditions of oxidative stress in the presence of RAD51 and XRCC3. Contributes to DNA cross-link resistance, sister chromatid cohesion and genomic stability. Involved in maintaining centrosome number in mitosis.[UniProtKB/Swiss-Prot Function]