

Product datasheet for MC212284

Rad51c (NM_053269) Mouse Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: Rad51c (NM_053269) Mouse Untagged Clone
Tag: Tag Free
Symbol: Rad51c
Synonyms: R51H3; Rad51I2
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
Fully Sequenced ORF: >MC212284 representing NM_053269
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGC**C

ATGCAGCGGGAGTTGGTGGGTTATCCGCTGTCTCCAGCGGTGCGCGGAAGCTGGTGGCTGCGGGGTTTC
 AGACGGCGGAGGACGTCCTAGAGGTGAAGCCCTCCGAGCTCAGCAAAGAAGTTGGGATATCTAAAGAGGA
 AGCCTTGGAACTCTACAAATTAAGAAGAGAATGTCTCACAATAAACCAAGATGTGCCGGTACATCT
 GTGGCAAACGAGAAGTGCACAGCACTGGAATTCGAGCAAGAGCATACCCAGGGCTTCATAATCACCT
 TCTGTTACGACTCGATAACATTCCTGGGGGTGGAATACCCCTAATGAAGACGACAGAAGTTTGGTGT
 ACCAGGTGTTGGAAAAACACAGTTATGTATGCAATTGGCAGTAGATGTGCAGATTCCAGAATGTTTTGGG
 GGCGTGGCCGGTGAAGCAGTATTTATTGATACAGAGGGAAGTTTTATGGTTGATAGAGTGGTCAGCCTTG
 CAACTGCCTGCATTACGACCTTCATCTCATAGCAGGAACACACCGGAAGAAGAATCAGAAAGCCTT
 GAAGGATTTTACTCTTAAAAATATCTTTCCCATATTTATTTTTCGTTGTCATGATTACTGAGCTG
 CTGGCACAAGTCTATCTCCTCCAGATTTCCCTTCAGATCATCAAAGGTGCAGCTAGTGATAATAGACG
 GAATTCCTTTCCCTTTTCGTGACCTTGAAGATCTATCCCTTCGTAATTAATAAATGACGCTCGC
 CCAACAAATGATCAGCCTTGCAAATAATCACAGATTAGCTGTTATTTAACTAATCAGATGACAACAAAG
 ATTGATAAAAAATCAAGCTTTGCTTGTTCCTGCATTAGGGGAAAGCTGGGGCATGCTGCTACAATAAGGC
 TCATTTTTCACTGGGAACAAAAGCAAAGATTTGCAACATTGTACAAGTCACCAAGCCAGAAGGAGTCTAC
 GATACCATTTAGATCACACCTCAGGGATTTAGAGACGCTGTTGTCACTGCTGCCTCATCACAGACAGAG
 AGTTCTTTGAATTTCCGGAAACGGTCACGAGAACCAGAGGAAGAATGCT**TGA**

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI
ACCN: NM_053269



Insert Size:	1101 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
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:	<ol style="list-style-type: none">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:	<u>NM_053269.3, NP_444499.1</u>
RefSeq Size:	2954 bp
RefSeq ORF:	1101 bp
Locus ID:	114714
UniProt ID:	<u>Q924H5</u>
Cytogenetics:	11 52.08 cM

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 paralogs 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]

Transcript Variant: This variant (2) contains an alternate exon at the 5' end, lacks a portion of the 5' coding region, and initiates translation at an alternate start codon compared to variant 1. The resulting protein (isoform 2) has a distinct N-terminus and is shorter than isoform 1.