

Product datasheet for **MR225790**

Rad51c (NM_053269) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Rad51c (NM_053269) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Rad51c
Synonyms:	R51H3; Rad51I2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR225790 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCAGCGGGAGTTGGTGGGTTTTCTCTGTCTCCAGCGGTGCGCGGAAGCTGGTGGTGC GGGGTTTT
AGACGGCGGAGGACGTCCTAGAGGTGAAGCCCTCCGAGCTCAGCAAAGAAGTTGGGATATCTAAAGAGGA
AGCCTTGGAACTCTACAAATCTAAGAAGAGAATGTCTCACAATAAACCAAGATGTGCCGTACATCT
GTGGCAAACGAGAAGTGCACAGCACTGGAATCTCGAGCAAGAGCATACCCAGGGCTTCATAATCACCT
TCTGTTCAAGCACTCGATAACATTTCTGGGGTGAATACCCCTAATGAAGACGACAGAAGTTGTGGTGT
ACCAGGTGTTGGAAAACACAGTTATGTATGCAATTGGCAGTAGATGTGCAGATTCCAGAATGTTTTGGG
GGCGTGGCCGGTGAAGCAGTATTTATTGATACAGAGGGAAGTTTTATGGTTGATAGAGTGGTCAGCCTTG
CAACTGCCTGCATTACAGCACCTTCATCTCATAGCAGGAACACACCGGAAGAAGAACATCAGAAAGCCTT
GAAGGATTTACTCTTGAATAATCTTTCCCATATTTATTTTCGTTGTCATGATTATACTGAGCTG
CTGGCACAAGTCTATCTCCTCCAGATTTCTTTCAGATCATCCAAGGTGCAGCTAGTGATAATAGACG
GAATTGCTTTCCCTTCGTCAAGACCTGAAGATCTATCCCTTCGTAAGTACTGATTACTAAATGGCCTCGC
CCAACAAATGATCAGCCTTGCAAATAATCACAGATTAGCTGTTATTTAACTAATCAGATGACAACAAAG
ATTGATAAAAATCAAGCTTTGCTTGTCTGCATTAGGGGAAAGCTGGGGCATGCTGCTACAATAAGCG
TCATTTTTCAGTGGGAACAAAAGCAAAGATTTGCAACATTGTACAAGTCACCAAGCCAGAAGGAGTCTAC
GATACCATTTAGATCACACCTCAGGGATTTAGAGACGCTGTTGTCACTGCTGCCTCATCACAGACAGAG
AGTTCTTTGAATTTCCGGAACGGTCACGAGAACCAGAGGAAGAATGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTAA



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Protein Sequence: >MR225790 protein sequence
Red=Cloning site Green=Tags(s)

MQREL VGFPLSPAVRGKLV AAGFQTAEDVLEV KPSSELSKEVGISKEEALET LQILRRECLTNKPRCAGTS
 VANEKCTALELLEQEHTQGF IITFCALDNILGGGIPLMKTTEVCGVPGVGKTQLCMQLAVDVQIPECFG
 GVAGEAVFIDTEGSFMVDRVVS LATAACIQHLHLIAGHTHEEHQKALKDF TLENILSHIYYFRCHDYTEL
 LAQVYLLPDFLSDHPKVQLVIIDGIAFPFRHDL EDSLRLRLLNGLAQQMISLANNHRLAVILT NQMTTK
 IDKNQALLVPALGESWGHAAATIRLIFHWEQKQRFATLYKSPSQKESTIPFQITPQGF RDVVTAASSQTE
 SSLNFRKRSREPEEEC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_053269

ORF Size: 1101 bp

OTI Disclaimer: 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_053269.1](#), [NM_053269.2](#), [NM_053269.3](#), [NP_444499.1](#)

RefSeq Size: 2954 bp

RefSeq ORF: 1101 bp

Locus ID: 114714

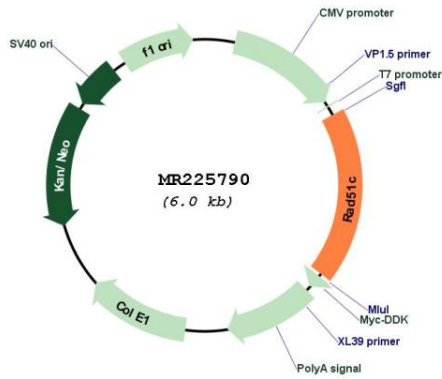
UniProt ID: [Q924H5](#)

Cytogenetics: 11 52.08 cM

MW: 40.7 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 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]

Product images:



Circular map for MR225790