

## Product datasheet for **MR221645**

### Rad54l (NM\_009015) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Rad54l (NM_009015) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Rad54l
Synonyms:	RAD54
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR221645 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGGAGGAGCTTAGCTCCCAGCCAGTTGGCCAGGAGGAAACCAGAAGACAGATCATCAGATGATGAAG  
 ACTGGCAGCCTGGGACAGTAACCTCTAAGAAACGCAAGTCCAGCAGTGAGACCCAGGTCCAGGAGTGTTC  
 CCTGTCTCCTTTTCGGAAGCCCTTGACTCAGCTACTCAACCGGCCACCTTGTCTGGATAGCAGTCAACAT  
 GAAGCATTTATTGCAAGTATTTTGTCAAAGCCTTTCAAGGTCCCATCCCAAATTATCAAGGTCCCTGG  
 GCTCTCGTGCATTGGGCCTGAAAAGGGTTGGAGTTCGTCGTGCCCTTCATGACCCCTGGAAGAAGGTGC  
 CTTGGTTCTCTATGAGCCTCCCCACTCAGCGCCCATGACCAACTGAAGCTTGACAAGGAAAACTCCCT  
 GTTCATGTGGTTGTTGATCCTATTCTCAGTAAGGTATTGCGGCCTCATCAGAGAGAGGGAGTGAAGTTCC  
 TATGGGAGTGTGCACCAGTCGTCGAATTCCTGGAAGCCATGGCTGCATCATGGCTGATGAGATGGCCT  
 GGGGAAGACACTGCAGTGCATCACATTGATGTGGACACTTTTACGCCAGAGCCCAGAATGCAAGCCAGAA  
 ATCGAGAAGGCAGTGGTGGTGTACCTTAGCCTGGTGAAGAAGTGGTACAATGAGGTTGAGAAATGGC  
 TTGGAGGGAGGATTCAACCTCTGGCCATCGATGGAGGCTCGAAGGACGAGATAGACCCGAAAACTGGAAGG  
 ATTCATGAACCAGCGTGGAGCTAGAGTGCCCTTCCCCATCCTCATATTTCTATGAGACTTTCCGCCTG  
 CATGTTGGAGTTCCTAAAAAAGGAAATGTTGGACTGGTCAATGTGACGAGGGCCACAGGCTAAAGAAGT  
 CTGAGAATCAGACTTACCAGGCTCTGGACAGCTTGAATACCAGCCGGCGGGTGTAACTCTCCGGGACCCC  
 CATCCAAAATGATTTGCTGGAGTATTTAGCTTGGTGCCTTTGTAATTTCTGGCATTGTTGGAACTGCC  
 CATGAATTCAGAAGCATTTTGGATTGCCAATTTGAAGAGTCGAGATGCAGCTGCCAGTGAGGCAGACA  
 GGCAGCGTGGGAGGAGCGTCTGCGGGAGCTCATCGGTATTGTGAACAGGTGCCTGATACGGAGAACATC  
 TGATATCCTCTAAGTATCTGCCCCGTAAGATTGAGCAGGTGGTTTGTGTAGGCTGACACCCCTTCAA  
 ACTGAGCTATACAAGAGATTTCTGAGACAGGCTAAGCCTGAAGAAGAATTGCGTGAGGGCAAGATGAGTG  
 TGTCTTCCCTGTCTTCTATCACCTCTCTAAAGAAGCTGTGTAATCATCCAGCTCTAATCTATGACAAGTG  
 TGTGGCAGAGGAGGATGGCTTTGAGGGCACTTTGGGTATCTTCCACCTGGTTATAACTCTAAAGCTGTA  
 GAGCCACAGTTGTCAGGTAAGATGCTGGTCCTTGATTACATTCTGGCCGTGACTCGAAGCCGTAGCAGTG  
 ACAAAGTCGTGCTGGTGTCTAATTATACTCAGACATTGGATCTCTTTGAAAAGCTGTGCCGGTTTGAAG  
 GTACTTGTATGTTCCCTGGATGGCAGCATGTCCATTAAGAAGCGAGCCAAGGTTGTGGAGCGCTTCAAT  
 AGCCCATCGAGCCCTGATTTTGTTCATGCTGAGCAGCAAAGCTGGGGCTGTGGTCTTAACTCATTG  
 GTGCTAACCGACTGGTCAATGTTGATCCTGACTGGAATCCAGCCAATGATGAACAAGCTATGGCCCGAGT  
 CTGGCGTGATGGTCAAAAGAAGATCTGCTATATCTACCGACTGCTATCTGCAGGAACAATTGAGGAGAAG  
 ATCTTTACGCGGCAGAGCCACAAGAAGGCTCTGAGCAGCTGTGTGGTGGACGAGGAGCAGGATGTGGAGC  
 GCCACTTTTCTCTTGGTGGAGCTTAAAGAGCTGTTACTCTGGATGAAGCAAGCCTCAGTGACACACATGA  
 CAGATTGCATTGCCCGCTTGTGTAACAACCGTCAGGTCTGGCCACCCCTGATGGTCTGACTGCACT  
 TCAGACCTGGCTCAGTGAACCACAGCACAGATAAACGAGGGCTCCAGGATGAGGTACTCCAGGCTGCCT  
 GGGATGCTTATCTACAGCCATCACCTTCGCTTCCACCAGCGTTCTCATGAGGAGCAGCGCGGTCTTCA  
 C

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >MR221645 protein sequence  
Red=Cloning site Green=Tags(s)

```
MRRSLAPSQLARRKPEDRSSDDEDWQPGTVTPKKRKSSSETQVQECFLSPFRKPLTQLLNRPCLDSSQH
EAFIRSIILSKPFKVIPNYQGGLGSRALGLKRVGVRRALHDPLEEGALVLYEPPPLSAHDQLKLDKEKLP
VHVVDPIILSKVLRPHQREGVKFLWECVTSRRIPGSHGCIMADEMGLGKTLQCITLMWTLRLRQSPECKPE
IEKAVVSPSSLVKNWYNEVEKWLGGRIQPLAIDGGSKDEIDRKLEGFMNQRGARVPSILIIISYETFRL
HVGVLKKGNVGLVICDEGHRLKNSNQTYQALDSLNTSRRVLSGTPIQNDLLEYFSLVHFVNSGILGTA
HEFKKHFEPLILKSRDAAASEADRQRGEERLRELIGIVNRCLIRRTSDILSKYLPVKIEQVVCRLTPLQ
TELYKRFRLQAKPEEELREGKMSVSSLSSITSLKLCNHPALIYDKVAEEDGFEGTLGIFPPGYNSKAV
EPQLSGKMLVLDYILAVTRSRSSDKVVLVSNTQTLDLFEKLCRVRRLYVRLDGTMSIKKRAKVVERFN
SPSSPDFVFMSSKAGGCGNLIGANRLVMFDPDWNPANDEQAMARVWRDQKKICYIYRLLSAGTIEEK
IFQRQSHKKALSSCVDEEQDVERHFSLGELKELFTLDEASLSDTHDRLHCRRCVNNRQVWPPPDGSDCT
SDLAQWNHSTDKRGLQDEVLQAAWDASSTAITFVFHQRSHEEQRLH
```

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\_009015

**ORF Size:** 2244 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\\_009015.2](#)

**RefSeq Size:** 3093 bp

**RefSeq ORF:** 2244 bp

**Locus ID:** 19366

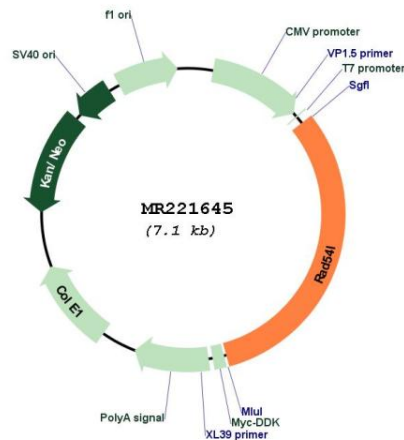
**UniProt ID:** [P70270](#)

**Cytogenetics:** 4 D1

**MW:** 84.7 kDa

**Gene Summary:** Involved in DNA repair and mitotic recombination. Functions in the recombinational DNA repair (RAD52) pathway. Dissociates RAD51 from nucleoprotein filaments formed on dsDNA. Could be involved in the turnover of RAD51 protein-dsDNA filaments (By similarity). Deficient mice also show significantly shorter telomeres than wild-type controls, indicating that the protein activity plays an essential role in telomere length maintenance in mammals. Deficiency also resulted in an increased frequency of end-to-end chromosome fusions involving telomeres compared to the controls, suggesting a putative role in telomere capping. Non-homologous end joining (NHEJ) and homologous recombination (HR) represent the two major pathways of DNA double-strand break (DSB) repair in eukaryotic cells. LIG4 and RAD54L cooperate to support cellular proliferation, repair spontaneous DSBs, and prevent chromosome and single chromatid aberrations.[UniProtKB/Swiss-Prot Function]

### Product images:



Circular map for MR221645