OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for SC110122

RAD50 (NM_005732) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	RAD50 (NM_005732) Human Untagged Clone
Tag:	Tag Free
Symbol:	RAD50
Synonyms:	hRad50; NBSLD; RAD502
Mammalian Cell Selection:	None
Vector:	pCMV6-XL4
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF:

>OriGene ORF within SC110122 sequence for NM_005732 edited (data generated by NextGen Sequencing)

ATGTCCCGGATCGAAAAGATGAGCATTCTGGGCGTGCGGAGTTTTGGAATAGAGGACAAA
GATAAGCAAATTATCACTTTCTTCAGCCCCCTTACAATTTTGGTTGGACCCAATGGGGCG
GGAAAGACGACCATCATTGAATGTCTAAAATATATTTGTACTGGAGATTTCCCTCCTGGA
ACCAAAGGAAATACATTTGTACACGATCCCAAGGTTGCTCAAGAAACAGATGTGAGAGCC
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AGAGAGAGACAAGAAGGGGAAGCAAAAACTGCCAACCAACTGATGAATGACTTTGCAGAA
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AAAATGGAAGTAATAAGTCTCCAAAATGAAAAAGCAGACTTAGACAGGACCCTGCGTAAA
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CTGACCAAAGACAAAGCTGACAAAGATGAACAAATCAGAAAAATAAAATCTAGGCACAGT
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GAATATGTGGAGAAATTCTACAGGATTAAAAAGAACATCGATCAGTGCTCAGAGATTGTG
AAATGCAGTGTTAGCTCCCTGGGATTCAATGTTCATTAA

Clone variation with respect to NM_005732.3

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_005732 unedited
GTACCATTTGTATACGACTCCTATAGGCGGCCGCGNAATTCGCACGAGGGTCGCATTGTG
GCTACGGCTTTGCGTCCCCGGCGGGCAGCCCCAGGCTGGTCCCCGCCTCCGCTCTCCCCA
CCGGCGGGGAAAGCAGCTGGTGTGGGAGGAAAGGCTCCATCCCCCGCCCCCTCTCTCCCG
CTGTTGGCTGGCAGGATCTTTTGGCAGTCCTGTGGCCTCGCTCCCCGCCCGGATCCTCCT
GACCCTGAGATTCGCGGGTCTCACGTCCCGTGCACGCCTTGCTTCGGCCTCAGTTAAGCC
TTTGTGGACTCCAGGTCCCTGGTGAGATTAGAAACGTTTGCAAACATGTCCCGGATCGAA
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GTTTCCCAGGCTGTNGCTAATAATGTCATTNTCTGTCATCAAGAAGAATTCTATTGGCCT
TTAAGTGAAGGAAAGGGCTTTGAGCAAAGTTTGATGAGATTTTTTCAGCACAGAAACATT
AAGCCTTAAAACACTNCGCAGGTACTCAGACCAGN

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_005732 unedited
TTGCTATGGCCCGGCGGCCGCAATCTAAGATCGCGTTTTTTTTTTTTTTTTTTTTTTTT
TTTTTTTTTTTCCTTTGAAAAAAATATTTTTTTATTGACTAAGTGGATATGAAAAATAAG
TTTCTTATTATACACTTTCTGAGGACCTACATTTTTATGGCATTAAAATCTTGGATATTT
TTAAGGAACATTGAATCCCAGGGAGCTAACACTGCATTTAACAATCTTTGACCACTGATC
GATGTTTTTTTTAATCCTGAAAAATTTCTCCACATATTCAAAACGTCCTAAAAGCTCCAC
AAAATCTTCATCATGAGGGATTACCAAAAGCTGGAAGTTACGCTGCTGGGAGCGACTTTT
TATTATCTCAACCAAAGCATGTGCAAAAAATTCAAGGTTTTCTCGGCCAAAATTTGTTGT
GGGCTCATCCAAGGCAATGATGCCACAGTTGAGGCAAAACGTTTCAGCCAGGGCCAGGCG
AATGATGAGTGAGGCTAATACCTTTTGTCCAGCACTGCATCGTCCTCGCATATCCAAGGC
TGTGTCTCCCTTCAGCATCACCACTCGGTAGTTATAATTCCGCCTTTTATCAGAAGCTGA
TACATTTTCATCGGCATCAGACCGTATTTCTATGTATTCAATATCTTTGCCCCGATAGGT
ACTTTCGCCCCAGTTCACGTAATAATTTAATGGATTCCTTCCATTTTCATACTGGGGAAA
ATTCATTATTGCCTGGGCCAAGAGCCTTAATATAAATACCAGATCCTTGTCACAAAGTTC
TGGTGGCCCTCATACAACATCATTTCTTTATACTTTCCTCAGATCCGAAAATGTGTCCTT
CGAAGTTTTTTCTAAAAGAAAAATTTTTCTTCACCCCTTCTGCCGCCTATGCAAATAAGG
AATCTTTTTAATGGCGTATGGTCCTTCCAACTCGGAGGCCACTTTCATTGCAACCCGGCT
T

Restriction Sites: NotI-NotI

ACCN: NM_005732

Insert Size: 5000 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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

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_005732.2, NP_005723.2

RefSeq Size: 5891 bp

RefSeq ORF: 3939 bp

Locus ID: 10111

UniProt ID: Q92878

Cytogenetics: 5q31.1

Domains: Rad50_zn_hook

Protein Families: Druggable Genome

Protein Pathways: Homologous recombination, Non-homologous end-joining

Gene Summary: The protein encoded by this gene is highly similar to Saccharomyces cerevisiae Rad50, a protein involved in DNA double-strand break repair. This protein forms a complex with MRE11 and NBS1. The protein complex binds to DNA and displays numerous enzymatic activities that are required for nonhomologous joining of DNA ends. This protein, cooperating with its partners, is important for DNA double-strand break repair, cell cycle checkpoint activation, telomere maintenance, and meiotic recombination. Knockout studies of the mouse homolog suggest this gene is essential for cell growth and viability. Mutations in this gene are the cause of Nijmegen breakage syndrome-like disorder.[provided by RefSeq, Apr 2010]
Transcript Variant: This variant (1) contains an internal region absent in variant 2. The resulting protein is 139 aa longer at its N-terminus, as compared to isoform 2.