

Product datasheet for **RC228272**

RAD51 (NM_001164269) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: RAD51 (NM_001164269) Human Tagged ORF Clone
Tag: Myc-DDK
Symbol: RAD51
Synonyms: BRCC5; FANCR; HRAD51; HsRad51; HsT16930; MRMV2; RAD51A; RECA
Mammalian Cell Selection: Neomycin
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
ORF Nucleotide Sequence: >RC228272 representing NM_001164269
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCAATGCAGATGCAGCTTGAAGCAAATGCAGATACTTCAGTGAAGAAGAAAGCTTTGGCCACAAC
CCATTTACGGTTAGAGCAGTGTGGCATAAATGCCAACGATGTGAAGAAATTGGAAGAAGCTGGATTCCA
TACTGTGGAGGCTGTTGCCTATGCGCCAAAGAAGGAGCTAATAAATATTAAGGGAATTAGTAAGCCAAA
GCTGATAAAATTCTGACGGAGTCTCGCTCTGTTGCCAGGCTGGAGTCAATAGCGTGATCTTGGTCTACT
GCACCCTCGCCTCTCAGGTTCAAGTATTCTCCTGCCTCAGCCTCCCGAGTAGTTGGGACTACAGGTGG
AATTGAGACTGGATCTATCACAGAAATGTTTGGAGAATTCGGAAGTGGGAAAGCCAGATCTGTCATACG
CTAGCTGTACCTGCCAGCTTCCATTGACCGGGTGGAGGTGAAGGAAAGGCCATGTACATTGACTG
AGGGTACCTTTAGGCCAGAACGGCTGCTGGCAGTGGCTGAGAGGTATGGTCTCTCTGGCAGTGATGTCCT
GGATAATGTAGCATATGCTCGAGCGTTCAACACAGACCACCAGACCCAGCTCCTTTATCAAGCATCAGCC
ATGATGGTAGAATCTAGGTATGCACTGCTTATTGTAGACAGTGCCACCGCCCTTTACAGAACAGACTACT
CGGGTCGAGGTGAGCTTTCAGCCAGGCAGATGCACTTGGCCAGGTTTCTGCGGATGCTTCTGCGACTCG
TGATGAGTTTGGTGTAGCAGTGGTAATCACTAATCAGTGGTAGTCAAGTGGATGGAGCAGCGATGTTT
GCTGCTGATCCCAAAAACCTATTGGAGGAAATATCATCGCCCATCAACAACAGATTGTATCTGA
GGAAAGGAAGAGGGGAAACCAGAATCTGCAAAATCTACGACTCTCCCTGTCTTCTGAAGCTGAAGCTAT
GTTCCGCAATTAATGCAGATGGAGTGGGAGATGCCAAAGAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC228272 representing NM_001164269
Red=Cloning site Green=Tags(s)

MAMQMQLLEANADTSVEEESFGPQPISRLEQCGINANDVKKLEEAGFHTVEAVAYAPKKELINIKGISEAK
 ADKILTESRSVARLECNVILVYCTLRLLSGSSDPASASRVVGTGGIETGSITEMFGEFRTGKTQICHT
 LAVTCQLPIDRGGGEGKAMYIDTEGTFRPERLLAVAERYLGSDDVLDNVAYARAFNTDHQTQLLYQASA
 MMVESRYALLIVDSATALYRTDYSGRGELSARQMHLARFLRMLLRLADEFVAVVITNQVVAQVDGAAMF
 AADPKKPIGGNIIAHASTTRLYLRKGRGETRICKIYDSPCLPEAEAMFAINADGVGDAKD

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk8053_d03.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_001164269

ORF Size: 1020 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_001164269.2](#)

RefSeq ORF: 1023 bp

Locus ID: 5888

UniProt ID: [Q06609](#)

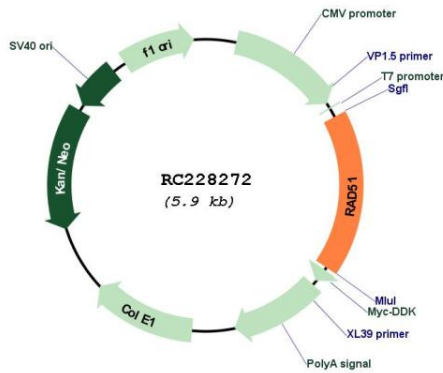
Cytogenetics: 15q15.1

Protein Families: Druggable Genome, Stem cell - Pluripotency, Transcription Factors

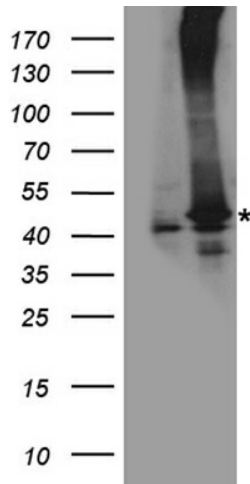
Protein Pathways: Homologous recombination, Pancreatic cancer, Pathways in cancer

MW: 36.6 kDa

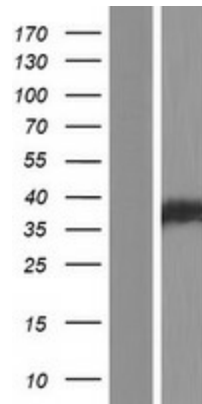
Gene Summary: The protein encoded by this gene is a member of the RAD51 protein family. RAD51 family members are highly similar to bacterial RecA and *Saccharomyces cerevisiae* Rad51, and are known to be involved in the homologous recombination and repair of DNA. This protein can interact with the ssDNA-binding protein RPA and RAD52, and it is thought to play roles in homologous pairing and strand transfer of DNA. This protein is also found to interact with BRCA1 and BRCA2, which may be important for the cellular response to DNA damage. BRCA2 is shown to regulate both the intracellular localization and DNA-binding ability of this protein. Loss of these controls following BRCA2 inactivation may be a key event leading to genomic instability and tumorigenesis. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Aug 2009]

Product images:


Circular map for RC228272



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY RAD51 (Cat# RC228272, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-RAD51 antibody (Cat# [TA890143]). Positive lysates [LY408818] (100ug) and [LC408818] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY431300]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC228272 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).