

Product datasheet for **RC210649**

Ku80 (XRCC5) (NM_021141) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Ku80 (XRCC5) (NM_021141) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	XRCC5
Synonyms:	KARP-1; KARP1; KU80; Ku86; KUB2; NFIV
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide
Sequence:

>RC210649 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGTGCGGTCGGGAATAAGGCAGCTGTTGTGCTGTGTATGGACGTGGGCTTTACCATGAGTAACTCCA
TTCTTGGTATAGAATCCCATTGGAACAAGCAAAGAGGTGATAACCATGTTTGTACAGCGACAGGTGTT
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TTGAAAGCAAAATCCAACCAGGTTCTCAACAGGCTGACTTCTGGATGCACTAATCGTGAGCATGGATGT
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TCTTGCCCTTCTCACTTGCAAGGAAGATGGAAGTGGGGACAGAGGAGATGGCCCTTTCGCTTAGTGG
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TTTCAGTGTCTGCTGCACAGAGCTTACATCCCCGGGAGCCTCTACCCCAATTCAGCAGCATATTTGGA
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GCCAAAAGTTTTCTGGCCCCAAAGACAAACCAAGTGGAGACACAGCAGCTGATTTGAAGAAGGTGGT
ATGTGGACGATTTATTGGACATGATA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC210649 protein sequence
 Red=Cloning site Green=Tags(s)

MVRSGNKAAVL CMDVGF TMSNSIPGIESPF EQAKKVITMFVQRQVFAENKDEIALVLF GDTGDNPLSG
 GDQYQNI TVHRHMLP DFDLLEDIESKI QPGSQADFLDALIVSMDVIQHETIGKKFEKRHIEIFDLS
 RFSKSQLDIIHSLKKCDISLQFFLPFSLGKEDGSGDRGDPFRLGGHGPFPLKGITEQQKEGLEIVKM
 VMISLEGEDGLDEIYSFSESLRKL CVFKKIERHSIHWPCRLTIGSNLSIRIAAYKSILQERVKKTWTVVD
 AKTLKKEDIQKETVYCLNDDDETEVLKEDI IQGFYRGS D IVPFSKVDEEQMKYKSEGKCF SVLGFCKSSQ
 VQRRFFMGNQVLKVFAARDDEAAAVALSSLIHALDDLDMVAIVRYAYDKRANPQVGVAFPHKHNYECLV
 YVQLPFMEDLRQYMFSSLKNSKKYAPTEAQLNAVDALIDSMSLAKKDEKTDLTLEDLFPPTKIPNPRFQRL
 FQCLLHRALHPREPLPPIQQHIWNMLNPPAEVTTKSQIPLSKIKTLFPLIEAKKKDQVTAQEIFQDNHED
 GPTAKKLTKEQGAHFSVSSLAEGSVTSVGSVNPANFRVLVKQKASFEEASNQLINHIEQFLDNETP
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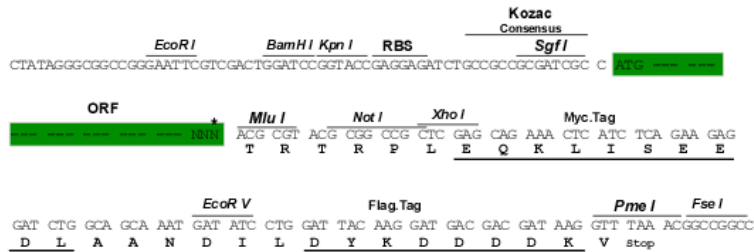
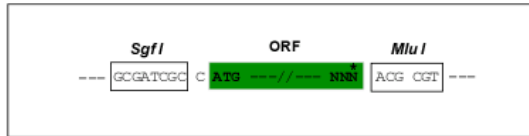
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Chromatograms: https://cdn.origene.com/chromatograms/mk6293_g10.zip

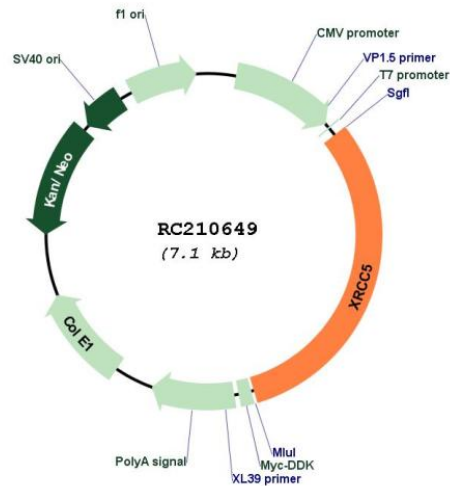
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:


ACCN: NM_021141

ORF Size: 2196 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_021141.4](#)

RefSeq Size: 3448 bp

RefSeq ORF: 2199 bp

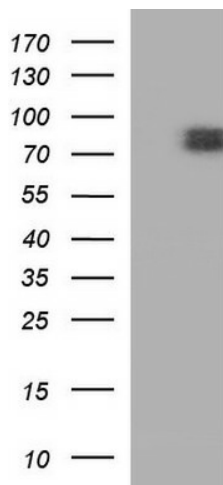
Locus ID: 7520

UniProt ID: [P13010](#)

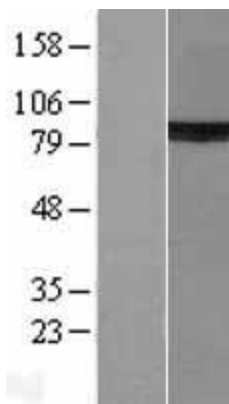
Cytogenetics: 2q35
Domains: VWA, Ku_C, Ku_N, ku
Protein Families: Druggable Genome, Stem cell - Pluripotency
Protein Pathways: Non-homologous end-joining
MW: 82.7 kDa

Gene Summary: The protein encoded by this gene is the 80-kilodalton subunit of the Ku heterodimer protein which is also known as ATP-dependant DNA helicase II or DNA repair protein XRCC5. Ku is the DNA-binding component of the DNA-dependent protein kinase, and it functions together with the DNA ligase IV-XRCC4 complex in the repair of DNA double-strand break by non-homologous end joining and the completion of V(D)J recombination events. This gene functionally complements Chinese hamster xrs-6, a mutant defective in DNA double-strand break repair and in ability to undergo V(D)J recombination. A rare microsatellite polymorphism in this gene is associated with cancer in patients of varying radiosensitivity. [provided by RefSeq, Jul 2008]

Product images:



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY XRCC5 (Cat# RC210649, 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-XRCC5 (Cat# [TA590469]). Positive lysates [LY412062] (100ug) and [LC412062] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY412062]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC210649 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).