

Product datasheet for **MR209374**

Xrcc6 (NM_010247) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Tag:	Myc-DDK
Symbol:	Xrcc6
Synonyms:	70kDa; G22p1; Ku70
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



ORF Nucleotide Sequence: >MR209374 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGTCAGAGTGGGAGTCTACTACAAAACCTAGGGGCGAGGAAGAGGAAGAGGAGGAGGAGAGCCCGCACGAGGTGGAGAATATAAATATTCAGGAAGAGATAGCTTGATTTTTCTGGTTGATGCCTCCAGGGCTATGTT
CGAATCTCAGGGTGAAGATGAACTCACACCTTTTGATATGAGCATCCAGTGATCCAGAGTGTGTACACC
AGTAAGATCATAAAGCAGCATCGGGATCTCCTGGCAGTGGTGTCTATGGAACCGAGAAAGATAAAAAATT
CAGTGAATTTCAAAAATATTTATGTCTTACAAGATTTGGACAACCCAGGCGCTAAGCGAGTGTCTAGAGCT
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TTAGTGAAGTCTCTGGGTCTGTGCCAACTCTTCAGCGAGCTCCAGCTCAAGATGAGTCAAGAGGA
TCATGCTGTTTCCCAATGAAGACGACCCCCATGGCCGTGACAGTGTCTAAAGCGACGGCGGGCAGGACCAA
AGCCAGCGACCTCCGGGCACTGGGATCTTCTTGACTTGATGCATCTGAAGAAGCCAGGAGGCTTTGAT
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CAAGCAAGCTGGAAGACCTGCTAAGGAAGGTTTCGAGCCAAGGAGACCAAAAAGCGAGTTCTGTCCAGGTT
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CCTTTTCCAGTGAGACTCTATCGGGAACAAATGAACCAAGTGAAACCAAGACAAGGACTTTTAAATGTAA
ACACCGGCAGTCTACTCTGCCTAGTGACACCAAGCGGTCTCTGACTTACGGGACACGTGAGATTGTGCT
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GTGGGAGCTCAACCTTTGTTACGCGCTCTGCTACCAAGTGTGTGGAGAAGAAGTCTATGACAGTGTGTAG
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CAGAACATTACAGTGACTCCAGGAGGCTTCAGCTTGTCTTCTCCCTTATGCCGATGACAAGCGGAAG
TGCCCTTTACTGAGAAGGTGACGGCCAACAGGAGCAGATAGACAAGATGAAGGCCATTGTTCAAAAGCT
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CTAGCTTTGGACATGATGAGTCGAGCAAGTGGTAGATCTGACACTACCAAGGTTGAAGCCATAAAGA
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AGTTGCCAAGAGAAAAACAAGATGATGAAGGTTCTACGAGTAAAAAGCCCAAGGTAGAGTTATCAGAAGAA
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AGGCTCATGGGCTTAAGAGTGGGCCGAAGAAGCAGGAAGTCTAGATGCTCTTATCAGACACTTGGAGAA
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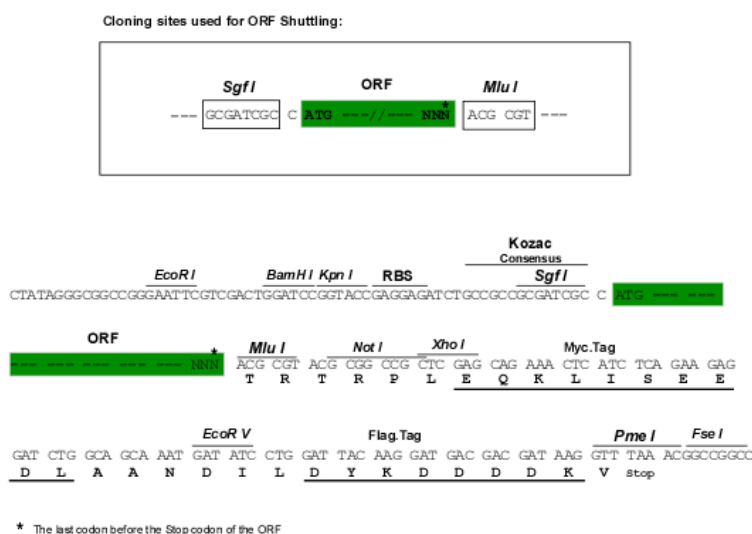
Protein Sequence: >MR209374 protein sequence
Red=Cloning site Green=Tags(s)

MSEWESYYKTEGEEEEEESSPDTGGEYKYSGRDSLIFLVASRAMFESQGEDELT PFDMSIQICQSVYT
SKIISDDRLLAVVFYGTEDKNSVNFKNIIYVLQDLNPGAKRVLELDQFKGQQGKKHFRDVTGHGSDYS
LSEVLWVCANLFSVDVQLKMSHKRIMLFTNEDDPHGRDSAKASRARTKASDLRDTGIFLDLMLKKPGGFD
VSFVYRDIITTAEDDLGVHFEESKLELDLRLKVRAKETKKRVL SRLKFKLGEDVLMVGTYNLVQKANK
PFVRLYRETNEPVKTKTRTFNVNTGSLLLPSDTKRSLTYGTRQIVLEKEETEELKRDFEPLILMGFKP
TVMLKKQHYLRPSLFVYPEESLVSGSSTFLSALLTKCVEKKYIAVCRYTPRKNVSPYFVALVPQEEELDD
QIQTTPGGFQLVFLPYADKKRVYFTEKVTANQEIQIDMKKAIQKLFRTYRSDSFENPVLQQHFRNLEA
LALDMMESEQVVDLTLPKVEAIKKRLGSLADEFKELVYPGPNPEGVAKKRQDDEGSTSKPKVELSEE
ELKAHFRKQTLGKLTVPTLKDICKAHGLKSGPKKOELLDALIRHLEKN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: Sgfl-MluI

Cloning Scheme:



ACCN: NM_010247

ORF Size: 1824 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22µm filter is required.

RefSeq: [NM_010247.1](#), [NM_010247.2](#), [NP_034377.1](#), [NP_034377.2](#)

RefSeq Size: 2113 bp

RefSeq ORF: 1827 bp

Locus ID: 14375

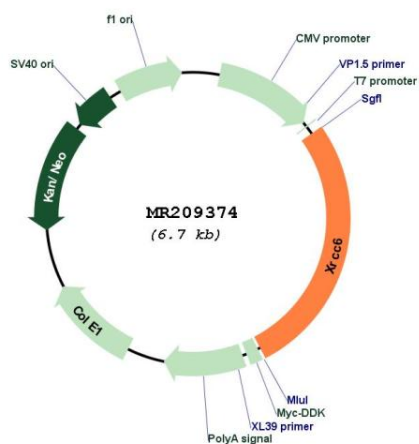
UniProt ID: [P23475](#)

Cytogenetics: 15 38.33 cM

MW: 69.5 kDa

Gene Summary: Single-stranded DNA-dependent ATP-dependent helicase. Has a role in chromosome translocation. The DNA helicase II complex binds preferentially to fork-like ends of double-stranded DNA in a cell cycle-dependent manner. It works in the 3'-5' direction. Binding to DNA may be mediated by XRCC6. Involved in DNA non-homologous end joining (NHEJ) required for double-strand break repair and V(D)J recombination. The XRCC5/6 dimer acts as regulatory subunit of the DNA-dependent protein kinase complex DNA-PK by increasing the affinity of the catalytic subunit PRKDC to DNA by 100-fold. The XRCC5/6 dimer is probably involved in stabilizing broken DNA ends and bringing them together. The assembly of the DNA-PK complex to DNA ends is required for the NHEJ ligation step. Required for osteocalcin gene expression. Probably also acts as a 5'-deoxyribose-5-phosphate lyase (5'-dRP lyase), by catalyzing the beta-elimination of the 5' deoxyribose-5-phosphate at an abasic site near double-strand breaks. 5'-dRP lyase activity allows to 'clean' the termini of abasic sites, a class of nucleotide damage commonly associated with strand breaks, before such broken ends can be joined. The XRCC5/6 dimer together with APEX1 acts as a negative regulator of transcription. Plays a role in the regulation of DNA virus-mediated innate immune response by assembling into the HDP-RNP complex, a complex that serves as a platform for IRF3 phosphorylation and subsequent innate immune response activation through the cGAS-STING pathway (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR209374