

Product datasheet for **MG209374**

Xrcc6 (NM_010247) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Xrcc6 (NM_010247) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Xrcc6
Synonyms:	70kDa; G22p1; Ku70
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG209374 representing NM_010247
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGTCAGAGTGGGAGTCCTACTACAAAACCTGAGGGCGAGGAAGAGGAAGAGGAGGAGAGAGCCCCGACA
 CAGGTGGAGAATAAAATATTCAGGAAGAGATAGCTTGATTTTTCTGGTTGATGCCTCCAGGGCTATGTT
 CGAATCTCAGGGTGAAGATGAACTCACACCTTTTATGATATGAGCATCCAGTGTATCCAGAGTGTGTACACC
 AGTAAGATCATAAGCAGCGATCGGGATCTCCTGGCAGTGGTGTCTATGGAACCGAGAAAGATAAAAATT
 CAGTGAATTTCAAAAATATTTATGTCTTACAAGATTTGGACAACCCAGGCGCTAAGCGAGTGTAGAGCT
 CGACCAGTTAAAGGACAACAGGGGAAGAAGCACTTCCGAGACACGGTTGGCCATGGGTCTGACTACTCT
 TTGAGTGAAGTCTCTGGGTCTGTGCCAACCTCTCAGCGACGTCCAGCTCAAGATGAGTACAAGAGGA
 TCATGCTGTTACCAATGAAGACGACCCCATGGCCGTGACAGTGTAAAGCCAGCCGGGCCAGGACCAA
 AGCCAGCGACCTCCGGGACACTGGGATCTTCTTGACTTGATGCATCTGAAGAAGCCAGGAGGCTTTGAT
 GTATCCGTGTTTACAGGGACATCATCACACCGCTGAGGACGAGGACCTTGGGGTTCACCTCGAGGAGT
 CAAGCAAGCTGGAAGACCTGCTAAGGAAGTTCGAGCCAAGGAGACCAAAAAGCGAGTTCTGTCCAGGTT
 AAAGTTTAAAGCTCGGTGAAGACGTAGTACTCATGGTGGGCATTTATAACTTGGTCCAGAAAGCTAACAAG
 CCTTTTCCAGTGAGACTCTATCGGGAAACAAATGAACCAAGTGAACCAAGCAAGGACTTTTAAATGTAA
 ACACCGGCAGTCTACTCTGCCTAGTGACACCAAGCGTCTCTGACTACGGGACACGTGAGATTGTGCT
 GGAGAAAGAGGAGACAGAGGAGCTGAAGCGTTTATGAGCCAGGTTTATCCTCATGGGCTTTAAGCCC
 ACGGTGATGCTGAAGAAGCAGCACTACCTGAGGCCCTCTCTGTTCTGTACCCAGAGGAGTCCCTGGTCA
 GTGGGAGCTCAACCTTGTTCAGCGCTCTGCTCACCAAGTGTGTGGAGAAGAAGGTCATAGCAGTGTGTAG
 ATACACACCCCGAAGAACGTCTCCCGTATTTTGTGGCTTGGTGGCCAGGAAGAGGAGCTGGATGAT
 CAGAACATTCAGGTGACTCCAGGAGGCTTCCAGCTTGTCTTCCCTTATGCCGATGACAAGCGGAAGG
 TGCCCTTTACTGAGAAGGTGACGGCAACCAGGAGCAGATAGACAAGATGAAGGCCATTGTTCAAAAAGCT
 CCGCTTACATACAGGAGCGACAGTTTTGAGAATCCAGTCTGCAGCAGCACTTCCGCAACCTGGAGGCC
 CTAGCTTTGGACATGATGGAGTCGGAGCAAGTGGTAGATCTGACACTACCAAGGTTGAAGCCATAAAGA
 AAAGACTGGGTTCCCTGGCAGATGAGTTTAAAGAACTTGTCTATCCTCCAGGTTAATCCCGAGGGAAA
 AGTTGCCAAGAGAAAACAAGATGATGAAGTTCTACGAGTAAAAAGCCCAAGGTAGAGTTATCAGAAGAA
 GAGCTGAAGGCCATTTTCGTAAGGGCACACTGGGTAAGCTCACTGTACCTACACTGAAGGACATATGCA
 AGGCTCATGGGCTTAAGAGTGGGCCGAAGAAGCAGGAAGTCTAGATGCTTATCAGACACTTGGAGAA
 GAAC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>MG209374 representing NM_010247
 Red=Cloning site Green=Tags(s)

MSEWESYKTEGEEEEEEEEESPDTGGEYKYSGRDSLIFLVASRAMFESQGEDELTPFDMSIQCIQSVYT
 SKIISDDRLLAVVFGTEKDKNSVNFKNIVLQDLNPGAKRVLELDQFKGQQGKHKHFRDVTGHSYDYS
 LSEVLWVCANLFSVQLKMSHKRIMLFTNEDDPHGRDSAKASRARTKASDLRDTGIFLDMHLKPKGGFD
 VSVFYRDIITTAEDDLGVHFEESKLEDLLRKVRKETKKRVL SRLKFKLGEDVVL MVGIYNLVQKANK
 PFPVRLYRETNEPVKTKTRTFNVNTGSLLLPSDTKRSLTYGTRQIVLEKEETEELKRFDEPGLILMGFKP
 TVMLKKQHLYLRPSLFVYPEESLVSGSSTLFSALLTKCVEKKVIAVCRYTPRKNVSPYFVALVPQEEELDD
 QNIQVTPGGFQLVFLPYADDKRVKVPFTEKVTANQEQIDMKAIIVQKLRFTYRSDFSFNPLVQHFRLLEA
 LALDMMESEQVVDLTLPKVEAIKKRLGSLADEFKELVYPPGYNPEGKVAKRKQDDEGSTSKPKVELSEE
 ELKAHFRKGLTGLKLVPTLKDICKAHGLKSGPKKQELLDALIRHLEKN

TRTRPLE – GFP Tag – V

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.

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

RefSeq Size: 2113 bp

RefSeq ORF: 1827 bp

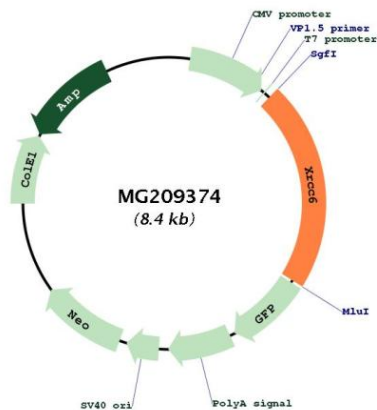
Locus ID: 14375

UniProt ID: [P23475](#)

Cytogenetics: 15 38.33 cM

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 MG209374