

## Product datasheet for **MC202035**

### **Xrcc5 (NM\_009533) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Xrcc5 (NM_009533) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Xrcc5
Synonyms:	AI314015; CTC85; CTCBF; Ku80; Ku86
Mammalian Cell Selection:	Neomycin
Vector:	PCMV6-Kan/Neo (PCMV6KN)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >BC051660 sequence for NM\_009533  
 CCGAACTGAGTTGCGACACTCTAGGTTTTCCGCCGGAAAAAGTAATCAAATCACCTGAGGACCAGCATGG  
 CGTGGTCCGGTAATAAGGCAGCTGTTGTGCTGTGTGGATGTGGGGTTGCCATGGGTAACCTCTTTCC  
 TGGTGAAGAATCTCCAATTGAACAAGCAAGAAAGTGATGACTATGTTTGTCCAACGACAGGATTTTTCG  
 GAGAGCAAAGATGAGATTGCGTTAGTCTCTATGGCACAGATGGCACTGATAATGCCCTTGCTGGCAAGG  
 ACCAGTATCAGAACATCACAGTGTGCAGACACCTGATACCAGATTTGATTTGCTGGAAGACATCGG  
 AAACAAAATCCAGCCAAGTTCCCAGCAAGCCGACTTCTGGACGCCCTGATTGTGTCATGGATTTGATT  
 CAGCGTGA AACCATAGGGAAGAAGTTTGGGAAGAAGCATATTGAAGTGTTCACTGACCTCAGCAGCCCGT  
 TCAGCCAGGACCAACTGGACGTTATAATTTGTAACCTGAAGAAGTCTGGCATCTCTCTGCAGTTCTTTTT  
 GCCTTTTCCAATCGACAAGAATGGCGAGCCTGGCGAGAGAGGGGACCTGGACTCTGGCTTGACCACCTC  
 AAACCCTCCTTCCCTCAAAAAGGACTTACTGAGCAGCAAAAGGAAGGCATCCGCATGGTGACAAGGGTGA  
 TGCTGTCCTTAGAAGGCGAAGACGGGCTGGATGAAATTTATTCCTTCAGTGAGAGTCTACGACAACGTG  
 CGTCTTTAAGAAGATTGAGAGCGTTCCATGCCCTGGCCCTGCCAACTGACCATTGGCCCAACTGTCT  
 ATAAAGATTGTAGCCTATAAATCGATTGTACAGGAGAAAATTAAGAAGAGTTGGGTAGTTGTGGACGCA  
 GAACGCTAAAGAAGGAAGATATACAAAAGAGACTGTTTATTGCCTAAATGACGATGATGAAACTGAAGT  
 TTCCAAAGAGGACACTATTCAAGGGTACCGCTACGGAAGTGATATCATTCTTTTTCTAAAGTGGATGAG  
 GAACAAATGAAATATAAATCTGAGGGGAAGTGCTTCTCTGTTTTGGGATTTGTAATCTTCTCAGGTTT  
 ATAGAAGATTCTCATGGGACATCAAGTTCTAAAGGTCTTTGCAGCAAAGGATGATGAGCGGCAGCTGT  
 TGCCCTTTCTCTCTCGTTCATGCTTTGGATGAGTTAAACATGGTCGCCATCGTCCGATATGCTTATGAC  
 AAAAGATCTAATCCTCAAGTTGGTGTAGCCTTCCCTTACATTAAGGACGCCTATGAGTGTGTTAGTTTATG  
 TGCAGCTGCCTTTCATGGAAGACTTGGCGCAATACATGTTTTCTCGTGAAAAACAATAAGAAGTGCAC  
 TCCCACAGAGGCCAGCTGAGCGCTATTGATGATCTGATTGATTCCATGAGCTTGGTAAAGAAAAACGAG  
 GAAGAAGACATTGTTGAAGATTTGTTTCCAACCTCCAAAATCCAAATCCTGAATTTGAGCGATTGTACC  
 AGTGTCTGCTGCATAGAGCCTTACATCTCCAGGAGCGGCTGCCCCGATTAGCAGCACATTTTGAATAT  
 GCTGGATCCCCCACTGAGATGAAAGCAAAATGTGAGAGTCCACTCTCTAAAGTAAAGACCTTTTCCCT  
 CTCACAGAAGTCATCAAGAAAAAGAACCAAGTACTGCTCAGGACGTTTTCCAAGACAATCATGAAGAGG  
 GGCCCGTGCTAAAAAATATAAACTGAGAAAAGAAGATCACATCAGCATCTCCAGCCTGGCAGAAGG  
 GAACATCACCAAGGTTGGAAGTGTGAATCTGTTGAAAACCTCCGTTTCCAGTAAAGACAGAAGATTGCC  
 AGCTTTGAGGAAGCGAGTCTCCAGTTAATAAGTCACATCGAACAAATTTTGGATACCAATGAAACTGT  
 ATTTTATGAAAAGTATGGACTGCATCAAAGCTTCCGGGAGGAGCCATTGATTTTTCAGAAAGACAGCG  
 CTTCAACAGCTTCTGGAAGCCCTTCGAGAGAAAGTGGAATTAAGCAATTAATCATTCTGGGAAAT  
 GTTGTTCAGGATGGAGTTACTCTGATCACCAAAGACGAAGGCCAGGAAGCTCTATCACAGCTGAGGAA  
 CCACAAAGTTTCTGGCCCCAAAGACAAAGCAAAAGAAGATACAACGGGACCTGAAGAAGCTGGTATGT  
 GGATGATTTACTGGACATGATATAGATCATGGATGTGTGGGGAATCCAAGAGTGCCAGCTCTGTGCTGT  
 GAGAGCTCTGGCAGCATCCCTGAGGCCGTGCAGGGGATGTGAAGCTCTGGACGTCATCCTAGCAGACAAC  
 TTGGGAATGAGTCACTCCAGGTCTCTACAGAGTGACCATAAGGACATATATTACAAGAAATAACTTAGAC  
 CCTATTCAAATTTATAAAGAGCCATTATTTTCTGAAAAAAAAAAAAAAAAA

**Restriction Sites:** RsrII-NotI

**ACCN:** NM\_009533

**Insert Size:** 2199 bp

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**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:** [BC051660](#), [AAH51660](#)

**RefSeq Size:** 2500 bp

**RefSeq ORF:** 2199 bp

**Locus ID:** 22596

**UniProt ID:** [P27641](#)

**Cytogenetics:** 1 36.5 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. In association with NAA15, the XRCC5/6 dimer binds to the osteocalcin promoter and activates osteocalcin expression. The XRCC5/6 dimer 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. XRCC5 probably acts as the catalytic subunit of 5'-dRP activity, and 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.[UniProtKB/Swiss-Prot Function]