

## Product datasheet for **MG226507**

### **Ercc2 (NM\_007949) Mouse Tagged ORF Clone**

#### **Product data:**

|                           |  |
|---------------------------|--|
| Product Type:             | Expression Plasmids  |
| Product Name:             | Ercc2 (NM_007949) Mouse Tagged ORF Clone                           |
| Tag:                      | TurboGFP   |
| Symbol:                   | Ercc2  |
| Synonyms:                 | AA407812; AU020867; AW240756; CXPB; Ercc-2; Mhdarco15; RCO015; XPD |
| Mammalian Cell Selection: | Neomycin   |
| Vector:                   | pCMV6-AC-GFP (PS100010)  |
| E. coli Selection:        | Ampicillin (100 ug/mL)   |



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**ORF Nucleotide Sequence:**

>MG226507 representing NM\_007949  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAAGCTCAACGTGGACGGGCTGCTGGTCTACTTCCCCTACGACTACATCTACCCGGAGCAGTTCTCCT  
 ACATGCTGGAGCTCAAGCGCACGCTGGACGCCAAGGGTCATGGAGTCTGGAGATGCCCTCGGGCACTGG  
 GAAGACAGTGTCCCTATTGGCCCTGATTGTGGCCTATCAGCGGGCTTATCCGCTGGAGGTGACCAAACCT  
 ATCTACTGCTCACGGACCGTCCAGAGATTGAGAAGGTATAGAAGAGCTTCGTAAGCTACTCAGCTTCT  
 ACGAGCAGCAGGAGGGCGAGAAGCTGCCGTTCTTAGGACTGGCTCTGAGCTCAAGAAAGAACCTGTGCAT  
 TCATCCCGAGGTGACTCCACTGCGCTTTGGGAAGGATGTTGATGGGAAGTGTACAGCCTAACGGCGTCG  
 TATGTGCGGGCACAGTACCAGCAGGATGCCAGCCTGCCTACTGCGCTTCTATGAGGAATTTGACATCC  
 ATGGAGCCAGATGCCGCTCCCTGCGGGCATCTACAACCTGGATGACCTGAAGGCCCTAGGGCAGCGCCA  
 GGGCTGGTGCCCTACTTCTGGCTCGATACTCGATCCTGCATGCCAACCTGGTGGTTTACAGCTACCAC  
 TACCTCCTGGACCCCAAGATCGCAGACCTGGTATCCAAAGAGCTGGCTCGCAAGGCTGTTGTGGTCTTCG  
 ATGAAGCTCACAACATCGACAATGTCTGCATTGACTCCATGAGTGTCAACCTCACCCGCAGGACTCTGGA  
 CCGTTGCCAGAGCAACTTAGACACCCTACAGAAGACCGTCTCAGGATCAAGGAGACGGATGAGCAGCGG  
 CTGCGGGATGAGTACCGGCGCCTGGTGGAGGGCCTGCGGGAGGCCAGTGTGGCCCGGAGACAGATGCC  
 ACCTGGCCAACCTGTGCTGCCGACGAGGTGCTGCAGGAGGCTGTGCCTGGCTCCATCCGTACGGCTGA  
 GCATTTCTGGGCTTTCTGCGGGCTGCTGGAGTATGTCAAGTGGCGTGTGCGCGTGCAGCATGTGGT  
 CAGGAGAGTCCACTGCCCTTCTGAGCGGCTGGCCAGCGGGTGTGCATCCAGCGCAAGCCCCTCAGT  
 TCTGTGCTGAACGCCTGCGCTCCCTGCTGCACACCCTGGAGATTGCCACCTGGCCGACTTCTCCCGCT  
 CACTCCTTGCTAACTTCGCCACTCTCGTCAGCACTTACGCCAAGGGCTTACCATTATCATTGAGCCC  
 TTTGACGACAGGACCCCAACATCGCAACCCGTTCTGCACTTCACTGTATGGACGCCTCTTGCCCA  
 TCAAGCCTGTGTTGAGCGCTTCCAGTCTGTCATCATCACTTCTGGGACACTGTCCCACTGGACATCTA  
 CCCAAGATCCTGGACTTCCACCCTGTCAATGGCAACCTTACCATGACGCTGGCCCGAGTCTGCCTC  
 TGCCCGATGATCATTGGCCGTGTAATGACCAGGTAGCAATCAGCTCCAAATTTGAGACCAGAGAAGATA  
 TTGCTGTGATCCGAAACTATGGCAACCTCTGCTGGAGATGTCCGCCGTGGTCCCAGATGGCATTGTGGC  
 CTTCTTTACCAGTACCAGTACATGAAAGCACCGTGGCCTCCTGGTATGAGCAGGGCATCCTTGAGAAC  
 ATCCAGAGGAACAACTGCTCTTATTGAGACCCAGGATGGGGCTGAGACCAGTGTGCCCTGGAGAAGT  
 ACCAAGAGGCATGCGAGAATGGCCGTGGGGCATTCTGCTCTCAGTGGCTCGGGGCAAAGTATCAGAAGG  
 GATTGACTTTGTACACCACTACGGACGGGCTGTGATCATGTTTGGAGTCCCTATGTCTATACCCAGAGC  
 CGAATTCTCAAGGCCCGCTAGAGTATCTGCGGGACAGTTCAGATCCGAGAGAACGACTTCTCACCT  
 TTGATGCTATGCGCCATGCAGCCAGTGTGTGGTTCGTGCCATCAGGGGCAAGACGGACTATGGACTCAT  
 GGTCTTTGCTGACAAGCGGTTTGTCTCGGGCGGACAAGCGTGGTAAGTGCCTCGCTGGATCCAGGAGCAC  
 CTGACCGACTCCAACCTCAACCTGACCGTGGATGAGGGTGTACAGGTCCCAAGTACTTCTGCGGCAGA  
 TGGCGCAGCCCTCCACCGGGAGGATCAGCTGGCCTGTCGCTGCTCAGCCTGGAGCAGTGCAGTCAGA  
 GGAGACACTACAGCGAATTGAGCAGATCGCACAGCAGTCT

**ACGCGT**ACGCGGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >MG226507 representing NM\_007949  
Red=Cloning site Green=Tags(s)

MKLNVDGLLVYFPDYIYPEQFSYMLELKRTLDAKGHVLEMPSTGKTVSLALIVAYQRAYPLEVTKL  
 IYCSRTVPEIEKVEELRKLKLSFYEQEGEKLPLGLALSSRNLCIHPEVTPFRFGKDVGDGKCHSLTAS  
 YVRAQYQQDASLPHCRFYEEFDIHGRQMPYPAGIYNLDDLKALGQRQGWCPYFLARYSILHANVVVSYH  
 YLLDPKIADLVSKELARKAVVVFDEAHNIDNVCIDSMSVNLTRRTLDRCSNLDLTKTVLRIKETDEQR  
 LRDEYRRLVEGLREASVARETDAHLANPVLPEVLQEAVPGSIRTAEHFLGFLRRLLEYVKWRLRVQHVV  
 QESPPAFLSGLAQRVCIQRKPLRFAERLRSLLHTLEIADLADFSPLLANFATLVSTYAKGFTIIIEP  
 FDDRTPTIANPVLHFSCMDASLAIKPVFERFQSVIITSGTSPLDIYPKILDFHPVTMATFTMTLARVCL  
 CPMIIGRNDQVAISSKFETREDIAVIRNYGNLLEMSAVVPDGI VAFFTSYQYMESTVASWYEQGILEN  
 IQRNKLLFIETQDGAETSVALEKYQEACENGRGAILLSVARGKVSEGIDFVHHYGRAVIMFGVPPVYTQS  
 RILKARLEYLRDQFQIRENDFLTFDAMRHAACVGRAIRGKTDYGLMVFADKRFARADKRKGLPRWIQEH  
 LTDSNLNLTVDEGVQVAKYFLRQMAQPFHREDQLGLSLLSLEQLQSEETLQRIEQIAQQQL

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_007949

**ORF Size:** 2280 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\\_007949.5](#)

**RefSeq Size:** 3547 bp

**RefSeq ORF:** 2283 bp

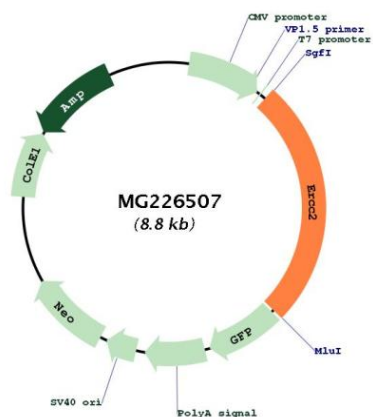
**Locus ID:** 13871

**UniProt ID:** [O08811](#)

**Cytogenetics:** 7 9.62 cM

**Gene Summary:** ATP-dependent 5'-3' DNA helicase, component of the general transcription and DNA repair factor IIH (TFIIH) core complex, which is involved in general and transcription-coupled nucleotide excision repair (NER) of damaged DNA and, when complexed to CAK, in RNA transcription by RNA polymerase II. In NER, TFIIH acts by opening DNA around the lesion to allow the excision of the damaged oligonucleotide and its replacement by a new DNA fragment. The ATP-dependent helicase activity of XPD/ERCC2 is required for DNA opening. In transcription, TFIIH has an essential role in transcription initiation. When the pre-initiation complex (PIC) has been established, TFIIH is required for promoter opening and promoter escape. Phosphorylation of the C-terminal tail (CTD) of the largest subunit of RNA polymerase II by the kinase module CAK controls the initiation of transcription. XPD/ERCC2 acts by forming a bridge between CAK and the core-TFIIH complex. Involved in the regulation of vitamin-D receptor activity. As part of the mitotic spindle-associated MMXD complex it plays a role in chromosome segregation. Might have a role in aging process and could play a causative role in the generation of skin cancers.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MG226507