

Product datasheet for **SC126932**

MRE11 (NM_005590) Human Untagged Clone

Product data:

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|---------------------------|--|
| Product Type: | Expression Plasmids |
| Product Name: | MRE11 (NM_005590) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | MRE11 |
| Synonyms: | ATLD; HNGS1; MRE11A; MRE11B |
| Mammalian Cell Selection: | None |
| Vector: | <u>pCMV6-XL4</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |



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Fully Sequenced ORF: >OriGene ORF within SC126932 sequence for NM_005590 edited (data generated by NextGen Sequencing)

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ATGAGTACTGCAGATGCACTTGATGATGAAAACACATTTAAAATATTAGTTGCAACAGAT
ATTCATCTTGGATTTATGGAGAAAAGATGCAGTCAGAGGAAATGATACGTTTGTAACTC
GATGAAATTTTAAAGACTTGCCAGGAAAATGAAGTGGATTTTATTTTGTAGGTGGTGAT
CTTTTTTCATGAAAATAAGCCCTCAAGGAAAACATTACATACCTGCCTCGAGTTATTAAGA
AAATATTGTATGGGTGATCGGCCTGTCCAGTTTGAAATTCTCAGTGATCAGTCAGTCAAC
TTTGGTTTTAGTAAGTTTCCATGGGTGAACTATCAAGATGGCAACCTCAACATTTCAATT
CCAGTGTTTATGATTCATGGCAATCATGACGATCCCACAGGGGCAGATGCACTTTGTGCC
TTGGACATTTTAAAGTTGTGCTGGATTTGTAATCACTTTGGACGTTCAATGTCTGTGGAG
AAGATAGACATTAGTCCGGTTTTGCTTCAAAAAGGAAGCACAAAGATTGCGCTATATGGT
TTAGGATCCATTCAGATGAAAGGCTCTATCGAATGTTTGTCAATAAAAAAGTAACAATG
TTGAGACCAAAGGAGATGAGAAGCTTTGGTTTAACTTATTTGTGATTCATCAGAACAGG
AGTAAACATGGAAGTACTAATTCATTCCAGAACAATTTTTGGATGACTTCATTGATCTT
GTTATCTGGGGCCATGAACATGAGTGATAAATAGCTCCAACCAAAAATGAACAACAGCTG
TTTTATATCTCACAACCTGGAAGCTCAGTGGTTACTTCTTTTCCCAGGAGAAGCTGTA
AAGAAACATGTTGGTTTGTGCTGCTATTAAGGGAGGAAGATGAATATGCATAAAATTCCT
CTTCACACAGTGCAGGAGTTTTTTCATGGAGGATATTGTTCTAGCTAATCATCCAGACATT
TTTAAACCAGATAATCCTAAAGTAACCCAAGCCATACAAAGCTTCTGTTTGGAGAAGATT
GAAGAAATGCTTGAAAATGCTGAACGGGAACGCTGGGTAATTCTCACCAGCCAGAGAAG
CCTCTTGTACGACTGCGAGTGGACTATAGTGGAGGTTTTGAACCTTTCAGTGTTCTTCGC
TTTAGCCAGAAATTTGTGGATCGGGTAGCTAATCCAAAAGACATTATCCATTTTTTCAGG
CATAGAGAACAAAAGGAAAAACAGGAGAAGAGATCAACTTTGGGAAACTTATCACAAGG
CCTTCAGAAGGAACAACCTTTAAGGGTAGAAGATCTTGAAAACAGTACTTTCAAACCGCA
GAGAAGAATGTGACGCTCTCACTGCTAACAGAAAAGGGATGGGTGAAGCAGTACAGAA
TTTGTGGACAAGGAGGAGAAAGATGCCATTGAGGAATTAGTGAAATACCAGTTGGAAAAA
ACACAGCGATTTCTTAAAGAACGTATATTGATGCCCTCGAAGACAAAATCGATGAGGAG
GTACGTCGTTTCAGAGAAACCAGACAAAAAATACTAATGAAGAAGATGATGAAGCCGT
GAGGCTATGACCAGGGCCAGAGCACTCAGATCTCAGTCAGAGGAGTCTGCTTCTGCCTTT
AGTGCTGATGACCTTATGAGTATAGATTTAGCAGAACAGATGGCTAATGACTCTGATGAT
AGCATCTCAGCAGCAACCAACAAAGGAAGAGGCCGAGGAAGAGGTGGAAGAGGTGGAAGA
GGGCAGAATTCAGCATCGAGAGGAGGGTCTCAANNNNNNNNNNCTTTAAATCTACAAGA
CAGCAGCCTTCCCAGAAATGTCACTACTAAGAATTATTCAGAGGTGATTGAGGTAGATGAA
TCAGATGTGGAAGAAGACATTTTTCTACCACTTCAAAGACAGATCAAAGGTGGTCCAGC
ACATCATCCAGCAAAATCATGTCCCAGAGTCAAGTATCGAAAGGGGTTGATTTTGAATCA
AGTGAGGATGATGATGATGATCCTTTTATGAACACTAGTTCTTTAAGAAGAAATAGAAGA
TAA
    
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Clone variation with respect to NM_005590.3

1774 a=>n;1775 g=>n;1776 a=>n;1777 g=>n;1778 g=>n;1779 a=>n;1780 a=>n;1781 g=>n;1782 a=>n;1783 g=>n;1784 c=>n

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_005590 unedited
 CTGACATTTGAGTACAGTACCCAGGGGTTCTTGGAGAAGAACCTGGTCCCAGAGGAGCTT
 GACTGACCATAAAAAATGAGTACTGCAGATGCACCTTGATGATGAAAAACACATTTAAATAT
 TAGTTGCAACAGATATTCATCTTGGATTTATGGAGAAAGATGCAGTCAGAGGAAATGATA
 CGTTTGTAACTCGATGAAATTTAAGACTTGCCAGGAAAATGAAGTGGATTTTATTT
 TGTTAGGTGGTGATCTTTTTTCATGAAAAAAGCCCTCAAGGAAAACATTACATACCTGCC
 TCGAGTTATTAAGAAAAATTGTATGGGTGATCGGCCTGTCCAGTTTGAAATTCTCAGTG
 ATCAGTCAGTCAACTTTGGTTTTAGTAAGTTTCCATGGGTGAACATCAAGATGGCAACC
 TCAACATTTCAATTCCAGTGTTTGTATTCATGNCATCATGACGATCCCACAGGGATGC
 ACTTTGTGCCTTGGACATTNTAAGTTGTGCTGGATTTGTNAATCACTTTGGACGTTCAAT
 GTCTGTGGAGAGATAGACATTAGTCCGGTTTTGCTTAAAAAGGAGCACAAGATTGCCTAT
 ATGTTTTAGGATCCATTCCGATGAAAGGCTCTATCGATGTTTGCATAAAAAAGTACATGT
 TGAGACAAGGAGAGAGACTCTGGGGTACTTATTGTCTCAGACAGAGTACTTGGAGCC
 TACCTCTTCAACATTTTGGAGCTTTGATCTTGAATTGGGCCTGACTGATGAAAAACTCA
 CAAAGACACCCTGTTTTCTCAACTGAAGCAGGGTCTCTCTCCCGG

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_005590 unedited
 TATGGACCGCGGCCGAATCTAGGATCGAGTTTTTTTTTTTTTTTTTAAAGGAAAAAAC
 TTTATTCCTTTTTCTAGGAACCTGTCAGGATACTTTAGTGACCATTCCCTCACTATAA
 CTCTCACCCAGACCCACCTAACTGATGCATGAGAAGAGCCACTAGCTGATGTGGCCACA
 GCTCAGACTGAGCCAGCATGGCTTGCAGGGGTAGGTAGCACAGCATCATCCAGACT
 GCCTCCCCTGGTAGCTTCCATTACATCATGGACAGCACTGCTCTCCCTGACTTAACCTT
 CTGCTTTGTTCAAATACTAGAAATATTAGATTTCAAGTTCAATAAAGATGTGGGCAGATC
 TGCCATAAGAATATTTACAGGACAACGCCTTCCACTGAGTTAATGCTACTTGCTCAAATA
 ACCCTTATGCTCAAGCCAGGTACAGAAAAATATTTTTAAGAAAGTCAATACAATGTTAT
 ATTGCAAGTTCTGACTTACGCCTCTTCAAACGTGCTATATGAGGCAGCCACTAACCAAGT
 GTCTGTCTCTTATAATTNGACACATTCCAGGATGACTATTCTTAATGGTCATGAGTATCA
 CTGAGTCAAGGCTCTGCCTCCTACCTATAAAGAAATGTCGGGCCCACTGTACCTCCGAAG
 ACGTATAACTCCCACCTATAAGTATCGCTGGTCGCCACCACCCCAAGGAATAACC
 CTCAGGGCCTCTTTCCCGAGGGATCATATCGAATGGGGTATTTAACCTTACCTCTGA
 AGCAGGCCCATTCCTCATCTCTCCCGCAAACACGGTTGGACTGCACCTTTTACATGGGC
 CTTTACGAATTCTCGACCTCGCCCTCTCCGAATGTCTCTCGGGCACCCCAAGGAATCAT
 ACCTGCTCACGCGAACCTTGCTTTGCTTTCGCCTCCCCCTCCCTATCTCTCCAGGGG
 TCACGCCCCCCTCTTAATA

Restriction Sites:

NotI-NotI

ACCN:

NM_005590

Insert Size:

4000 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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](#)

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_005590.3](#), [NP_005581.2](#)

RefSeq Size: 5164 bp

RefSeq ORF: 2043 bp

Locus ID: 4361

UniProt ID: [P49959](#)

Cytogenetics: 11q21

Domains: Metallophos, Mre11_DNA_bind

Protein Families: Druggable Genome, Stem cell - Pluripotency

Protein Pathways: Homologous recombination, Non-homologous end-joining

Gene Summary:

This gene encodes a nuclear protein involved in homologous recombination, telomere length maintenance, and DNA double-strand break repair. By itself, the protein has 3' to 5' exonuclease activity and endonuclease activity. The protein forms a complex with the RAD50 homolog; this complex is required for nonhomologous joining of DNA ends and possesses increased single-stranded DNA endonuclease and 3' to 5' exonuclease activities. In conjunction with a DNA ligase, this protein promotes the joining of noncomplementary ends in vitro using short homologies near the ends of the DNA fragments. This gene has a pseudogene on chromosome 3. Alternative splicing of this gene results in two transcript variants encoding different isoforms. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (2) differs in the 5' UTR and lacks an in-frame exon in the coding region, compared to variant 1. The encoded isoform 2 lacks an internal segment, compared to isoform 1.