

## Product datasheet for **RG213729**

### **MRE11 (NM\_005590) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	MRE11 (NM_005590) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	MRE11
Synonyms:	ATLD; HNGS1; MRE11A; MRE11B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG213729 representing NM\_005590  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGAGTACTGCAGATGCACCTTGATGATGAAAACACATTTAAAATATTAGTTGCAACAGATATTCATCTTG  
 GATTTATGGAGAAAGATGCAGTCAGAGGAAATGATACGTTTGTAACACTCGATGAAATTTAAGACTTGC  
 CCAGGAAAATGAAGTGGATTTTATTTTGTAGGTGGTGATCTTTTTCATGAAAATAGCCCTCAAGGAAA  
 ACATTACATACCTGCCTCGAGTTATTAAGAAAATATTGTATGGGTGATCGGCCTGTCCAGTTGAAATTC  
 TCAGTGATCAGTCAGTCAACTTTGGTTTTAGTAAGTTTCCATGGGTGAACATCAAGATGGCAACCTCAA  
 CATTTCATTCCAGTGTTTAGTATTTCATGGCAATCATGACGATCCACAGGGGCAGATGCACCTTTGTGCC  
 TTGGACATTTTAAAGTTGTGCTGGATTTGTAATCACTTTGGACGTTCAATGTCTGTGGAGAAGATAGACA  
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 AAGGCTCTATCGAATGTTTGTCAATAAAAAAGTAACAATGTTGAGACAAAGGAAGATGAGAACTCTTGG  
 TTTAACTTATTTGTGATTCATCAGAACAGGAGTAAACATGGAAGTACTAACTTCATTCCAGAACAATTTT  
 TGGATGACTTCATTGATCTTGTTATCTGGGGCCATGAACATGAGTGTAATAAGCTCCAACCAAAAATGA  
 ACAACAGCTGTTTTATATCTCACAACTGGAAGCTCAGTGGTTACTTCTTTTCCCAGGAGAAGCTGTA  
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 TGCGGCAGTTTTTCATGGAGGATATTGTTCTAGCTAATCATCCAGACATTTTTAACCCAGATAATCCTAA  
 AGTAACCAAGCCATACAAAGCTTCTGTTTGGAGAAGATTGAAGAAATGCTTGAAATGCTGAACGGGAA  
 CGTCTGGGTAATTCTCACCAGCCAGAGAAGCCTTGTACGACTGCGAGTGGACTATAGTGGAGGTTTTTG  
 AACCTTTCAGTGTTCTTCGCTTTAGCCAGAAAATTTGGATCGGGTAGCTAATCCAAAAGACATTATCCA  
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 GATGCCCTCGAAGACAAAATCGATGAGGAGGTACGTCGTTTCAGAGAAACCAGACAAAAAATACTAATG  
 AAGAAGATGATGAAGTCCGTGAGGCTATGACCAGGGCCAGAGCACTCAGATCTCAGTCAGAGGAGTCTGC  
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 AGCATCTCAGCAGCAACCAACAAAGGAAGAGGCCGAGGAAGAGGTGGAAGAGGTGGAAGAGGGCAGAAAT  
 CAGCATCGAGAGGAGGGTCTCAAAGAGGAAGAGCCTTTAAATCTACAAGCAGCAGCCTTCCCAGAAATGT  
 CACTACTAAGAATTATTAGAGGTGATTGAGGTAGATGAATCAGATGTGGAAGAAGACATTTTTCTACC  
 ACTTCAAAGACAGATCAAAGGTGGTCCAGCACATCATCCAGAAAATCATGTCCCAGAGTCAAGTATCGA  
 AAGGGTTGATTTTGAATCAAGTGAAGTATGATGATGATGATCCTTTTATGAACACTAGTTCTTTAAGAAG  
 AAATAGAAGA

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >RG213729 representing NM\_005590  
 Red=Cloning site Green=Tags(s)

MSTADALDDENTFKILVATDIHLGFMEKDAVRGNDTFVTLDEILRLAQENEVDFILLGGDLFHENKPSRK  
 TLHTCLELLRKYCMGDRPVQFEILSDQSVNFGFSKFPWVNYQDGNLNISIPVFSIHGNHDDPTGADALCA  
 LDILSCAGFVNHFGSRMSVEKIDISPVLLQKGSTKIALYGLGSIPDERLYRMFVNKKVTMLRPKEDENS  
 WFNLFVIHQNRSKHGSTNFIPEQFLDDFIDLVIWGHEHECKIAPTKNEQQLFYISQPGSSVVTSLSPGEAV  
 KKHVGLLRKGRKMNMHKIPLHTVRQFFMEDIVLANHPDIFNPDNPKVTQAIQSFLEKIEEMLENAERE  
 RLGNHQPEKPLVRLRVYDSSGGFEPFVLRFSQKFDVDRVANPKDIIHFHREHQEKETGEEINFGKLITK  
 PSEGTTLRVEDLVKQYFQTAENKVLQSLLLTERGMGEAVQEFVDKEEKDAIEELVKYQLEKTQRFLKERHI  
 DALEDKIDEEVRRFRRETRQKNTNEEDDEVREAMTRARALRSQSEESASAFSADDLMSIDLAEQMANSDD  
 SISAAATNKGRGRGRRRGGRGQNSASRGGGSRGRAFKSTRQQPSRNVTTKNYSEVIEVDESDEIDFPT  
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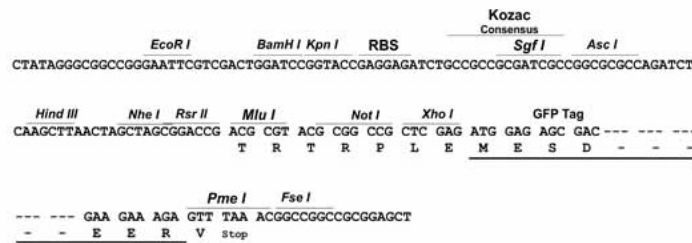
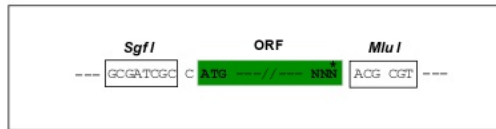
TRTRPLE - GFP Tag - V

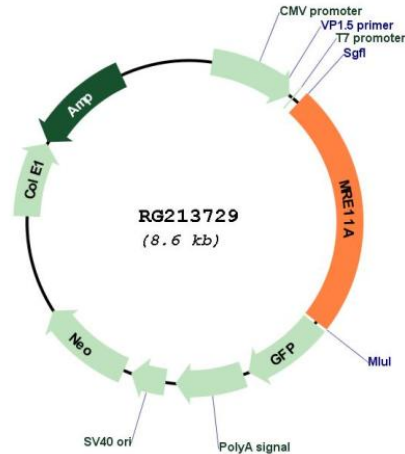
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



**Plasmid Map:**


**ACCN:** NM\_005590

**ORF Size:** 2040 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](mailto: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](#)

**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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_005590.4</a>
<b>RefSeq Size:</b>	5164 bp
<b>RefSeq ORF:</b>	2043 bp
<b>Locus ID:</b>	4361
<b>UniProt ID:</b>	<a href="#">P49959</a>
<b>Cytogenetics:</b>	11q21
<b>Domains:</b>	Metallophos, Mre11_DNA_bind
<b>Protein Families:</b>	Druggable Genome, Stem cell - Pluripotency
<b>Protein Pathways:</b>	Homologous recombination, Non-homologous end-joining
<b>Gene Summary:</b>	<p>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]</p>