

## Product datasheet for **RC209414**

### **MRE11 (NM\_005591) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	MRE11 (NM_005591) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MRE11
Synonyms:	ATLD; HNGS1; MRE11A; MRE11B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide  
Sequence:**

>RC209414 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGAGTACTGCAGATGCACCTTGATGATGAAAACACATTTAAAATATTAGTTGCAACAGATATTCATCTTG  
 GATTTATGGAGAAAGATGCAGTCAGAGGAAATGATACGTTTGAACACTCGATGAAATTTAAGACTTGC  
 CCAGGAAAATGAAGTGGATTTTATTTTGTAGGTGGTGATCTTTTTCATGAAAATAGCCCTCAAGGAAA  
 ACATTACATACCTGCCTCGAGTTATTAAGAAAATATTGTATGGGTGATCGGCCTGTCCAGTTTGAATTC  
 TCAGTGATCAGTCAGTCAACTTTGGTTTTAGTAAGTTTCCATGGGTGAACATCAAGATGGCAACCTCAA  
 CATTTCAATTCAGTGTTTAGTATTTCATGGCAATCATGACGATCCACAGGGGCAGATGCACCTTTGTGCC  
 TTGGACATTTTAAGTTGTGCTGGATTTGTAATCACTTTGGACGTTCAATGTCTGTGGAGAAGATAGACA  
 TTAGTCCGGTTTTGCTTCAAAAAGGAAGCACAAGATTGCGCTATATGGTTTAGGATCCATTCCAGATGA  
 AAGGCTCTATCGAATGTTTGTCAATAAAAAAGTAACAATGTTGAGACAAAGGAAGATGAGAATCTTGG  
 TTTAACTTATTTGTGATTCATCAGAACAGGAGTAAACATGGAAGTACTAATTCATTCCAGAACAATTTT  
 TGGATGACTTCATTGATCTTGTATCTGGGGCCATGAACATGAGTGTAAAATAGCTCCAACCAAAAATGA  
 ACAACAGCTGTTTTATATCTCACAACTGGAAGCTCAGTGGTTACTTCTTTCCCCAGGAGAAGCTGTA  
 AAGAAACATGTTGGTTTGTGCTGCGTATTAAGGGGAGGAAGATGAATATGCATAAAATTCCTCTTCACACAG  
 TGCGGCAGTTTTTCATGGAGGATATTGTCTAGCTAATCATCCAGACATTTTAAACCAGATAATCCTAA  
 AGTAACCAAGCCATACAAAGCTTCTGTTTGGAGAAGATTGAAGAAATGCTTGAAATGCTGAACGGGAA  
 CGTCTGGGTAATTCTCACCAGCCAGAGAAGCCTCTTGTACGACTCGGAGTGGACTATAGTGGAGGTTTTG  
 AACCTTTCAGTGTCTTCGCTTTAGCCAGAAAATTTGGGATCGGTAGCTAATCCAAAAGCATTATCCA  
 TTTTTTCAGGCATAGAGAACAAAAGGAAAAACAGGAGAAGAGATCAACTTTGGGAACTTATCACAAAG  
 CCTTCAGAAGGAACAACCTTAAGGGTAGAAGATCTTGTAAAACAGTACTTTCAAACCGCAGAGAAGAATG  
 TGCAGCTCTCACTGCTAACAGAAAAGAGGGATGGGTGAAGCAGTACAAGAATTTGTGGACAAGGAGGAGAA  
 AGATGCCATTGAGGAATTAGTGAATACCAGTTGGAAAAACACAGCGATTTCTTAAAGAACGTCATATT  
 GATGCCCTCGAAGACAAAATCGATGAGGAGGTACGTCGTTTCAGAGAAACCAGACAAAAAATACTAATG  
 AAGAAGATGATGAAGTCCGTGAGGCTATGACCAGGGCCAGAGCACTCAGATCTCAGTCAGAGGAGTCTGC  
 TTCTGCCTTTAGTGTGATGACCTTATGAGTATAGATTTAGCAGAACAGATGGCTAATGACTCTGATGAT  
 AGCATCTCAGCAGCAACCAACAAAAGGAAGAGGCCGAGGAAGAGGTGGAAGAGGTGGAAGAGGGCAGAA  
 CAGCATCGAGAGGAGGGTCTCAAAGAGGAAGAGCAGACACTGGTCTGGAGACTTCTACCCGTAGCAGGAA  
 CTCAAAGACTGTGTGTCAGCATCTAGAAATATGTCTATTATAGATGCCTTTAAATCTACAGACAGCAG  
 CCTTCCGAAATGCTACTACTAAGAATTATTCAGAGGTGATTGAGGTAGATGAATCAGATGTGGAAGAAG  
 ACATTTTCTACCCTTCAAAGACAGATCAAAGGTGGTCCAGCAGATCATCCAGCAAAATCATGTCCCA  
 GAGTCAAGTATCGAAAGGGTTGATTTTGAATCAAGTGAGGATGATGATGATGATCTTTTATGAACACT  
 AGTTCTTAAAGAAGAAATAGAAGA

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC209414 protein sequence  
Red=Cloning site Green=Tags(s)

```
MSTADALDDENTFKILVATDIHLGFMEKDAVRGNDTFVTLDEILRLAQENEVDFILLGGDLFHENKPSRK
TLHTCLELLRKYCMGDRPVQFEILSDQSVNFGFSKFPWVNYQDGNLNISIPVFSIHGNHDDPTGADALCA
LDILSCAGFVNHFGSRMSVEKIDISPVLLQKGSTKIALYGLGSIPDERLYRMFVNKKVTLRPKEDENSW
FNLFVIHQNRSKHGSTNFIPEQFLDDFIDLVIWGHEHECKIAPTKEQQLFYISQPGSSVVTSLSPGEAV
KKHVGLLRKGRKMNMHKIPLHTVRQFFMEDIVLANHPDIFNPDNPKVTQAIQSFCEKIEEMLENAERE
RLGNHQPEKPLVRLRVYDSSGGFEPFVSLRFSQKFVDRVANPKDIIHFRHREQKEKTGEEINFGKLITK
PSEGTTLRVEDLVKQYFQTAENVQLSLLTERGMGEAVQEFVDKEEKDAIEELVKYQLEKTQRFLKERHI
DALEDKIDEEVRRFRETRQKNTNEEDDEVREAMTRARALRSQSEESASAFSADDLMSIDLAEQMANSDD
SISAATNKGRGRGRRRGGRGQNSASRGGGSRGRADTGLESTSTRSRNSKTAVSASRNMSIIDAFKSTRQQ
PSRNVTTKNYSEVIEVDESDEEDIFPTTSKTDQRWSSTSSSKIMSQSQVSKGVDFESSEDDDDDPFMNT
SSLRRNRR
```

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6230\\_d09.zip](https://cdn.origene.com/chromatograms/mk6230_d09.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_005591

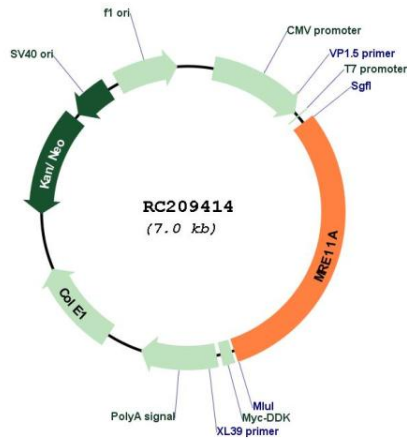
**ORF Size:** 2124 bp

**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](#)

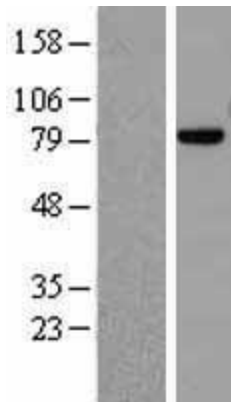
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

<b>Components:</b>	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>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NM_005591.4</a>
<b>RefSeq Size:</b>	5141 bp
<b>RefSeq ORF:</b>	2127 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>MW:</b>	80.6 kDa
<b>Gene Summary:</b>	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]

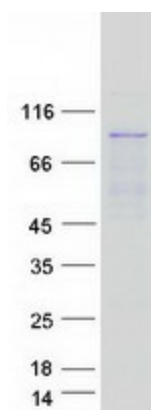
Product images:



Circular map for RC209414



Western blot validation of overexpression lysate (Cat# [LY417199]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC209414 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MRE11 protein (Cat# [TP309414]). The protein was produced from HEK293T cells transfected with MRE11 cDNA clone (Cat# RC209414) using MegaTran 2.0 (Cat# [TT210002]).