

## Recombinant Human MRE11A

**Cat. No.** MRE11A-28636TH    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Product Overview</b> | Recombinant full length Human Mre11 protein with an N terminal proprietary tag; predicted MWt: 48.77 kDa inclusive of tag.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Source</b>           | Wheat Germ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>ProteinLength</b>    | 206 amino acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Description</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.</p> |
| <b>Molecular Weight</b> | 48.770kDa inclusive of tags                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Form</b>             | Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Purity</b>           | Proprietary Purification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

 Tel: 1-631-559-9269    1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)     Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

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|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage buffer</b>           | pH: 8.00Constituents:0.79% Tris HCl, 0.3% Glutathione                                                                                                                                                                            |
| <b>Storage</b>                  | Shipped on dry ice. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles.                                                                                                                                        |
| <b>Sequences of amino acids</b> | MSTADALDDENTFKILVATDIHLGFMEKDAVRGNDTFVTL DEILRLAQENEVDFILLG<br>GDLFHENKPSRKTLLHTCLELLR KYCMGDRPVQFEILSDQSVNFGFSKFPWVNYQD<br>GNLNISI PVFSIHGNHDDPTGADALCALDILSCAGFVNHFGRSMSVE KIDISPVLLQK<br>GRTKIALYGLGSIPDERLYRMFVNKKVTM LRPKED |
| <b>Sequence Similarities</b>    | Belongs to the MRE11/RAD32 family.                                                                                                                                                                                               |
| <b>GENE INFORMATION</b>         |                                                                                                                                                                                                                                  |
| <b>Gene Name</b>                | <a href="#">MRE11A</a> <a href="#">MRE11 meiotic recombination 11 homolog A (S. cerevisiae)</a> [ <a href="#">Homo sapiens</a> ]                                                                                                 |
| <b>Official Symbol</b>          | <a href="#">MRE11A</a>                                                                                                                                                                                                           |
| <b>Synonyms</b>                 | MRE11A; MRE11 meiotic recombination 11 homolog A (S. cerevisiae); meiotic recombination (S. cerevisiae) 11 homolog A , MRE11; double-strand break repair protein MRE11A; AT like disease; ATLD;                                  |
| <b>Gene ID</b>                  | <a href="#">4361</a>                                                                                                                                                                                                             |
| <b>mRNA Refseq</b>              | <a href="#">NM_005590</a>                                                                                                                                                                                                        |
| <b>Protein Refseq</b>           | <a href="#">NP_005581</a>                                                                                                                                                                                                        |
| <b>MIM</b>                      | <a href="#">600814</a>                                                                                                                                                                                                           |

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|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Uniprot ID</b>          | P49959                                                                                                                                                                                                                                                                                                                               |
| <b>Chromosome Location</b> | 11q21                                                                                                                                                                                                                                                                                                                                |
| <b>Pathway</b>             | Assembly of the RAD50-MRE11-NBS1 complex at DNA double-strand breaks, organism-specific biosystem; BARD1 signaling events, organism-specific biosystem; BRCA1-associated genome surveillance complex (BASC), organism-specific biosystem; DNA Repair, organism-specific biosystem; DNA damage response, organism-specific biosystem; |
| <b>Function</b>            | 3-5 exonuclease activity; contributes_to ATP-dependent DNA helicase activity; contributes_to DNA binding; double-stranded DNA binding; endodeoxyribonuclease activity;                                                                                                                                                               |

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