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Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION



MRE11 (human, recombinant; aa 1-411)

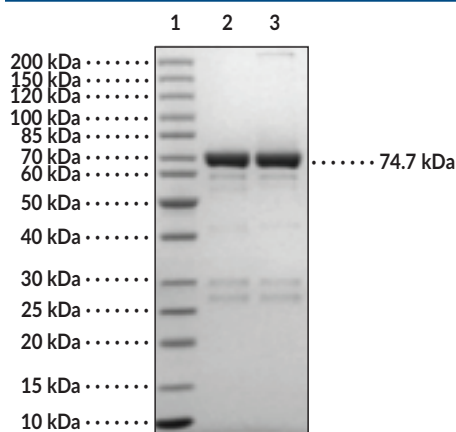
Item No. 40752

Overview and Properties

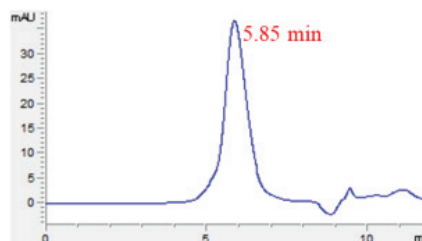
Synonyms: Double-strand Break Repair MRE11, Meiotic Recombination 11
Source: Recombinant human N-terminal His- and GST-tagged MRE11 expressed in *E. coli*
Amino Acids: 1-411
Peptide Sequence:
Uniprot No.: P49959
Molecular Weight: 74.7 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥90% estimated by SDS-PAGE
Supplied in: 50 mM Tris-HCl, pH 7.5, 200 mM sodium chloride, 20% glycerol
Endotoxin Testing: <1.0 EU/μg, determined by the LAL endotoxin assay
Protein
Concentration: *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: MRE11 (2 μg, reduced)
Lane 3: MRE11 (2 μg, non-reduced)



Analytical size exclusion chromatography (SEC) results for MRE11

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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PRODUCT INFORMATION



Description

Meiotic recombination 11 homolog (MRE11) is an endo- and exonuclease and member of the MRE11-RAD50-NBS1 (MRN) complex, which is involved in DNA double-strand break repair.¹ It exists as a homodimer and is composed of an N-terminal nuclease domain with five phosphodiesterase motifs, two dimerization motifs, and a Nijmegen breakage syndrome protein 1 (NBS1) interaction domain, a capping domain, and a C-terminal domain that contains two DNA-binding domains on either side of the RAD50 interaction domain.² Alternative splicing of MRE11 produces two main isoforms, MRE11 isoform 1, which is the full-length isoform, and MRE11 isoform 2, which lacks exon 16.³ MRE11 is expressed in proliferative tissues such as testis and spleen and localizes to the nucleus following DNA damage.^{4,5} It is involved in homologous recombination (HR) and non-homologous end joining (NHEJ) and forms complexes with two dsDNA ends (synaptic complex) or a single ssDNA or dsDNA end (branched complex).² Knockdown of MRE11 sensitizes cells to radiation *in vitro*, an effect that can be rescued by expression of MRE11 isoform 1 or 2.³ Overexpression of MRE11 increases tumor volume in a breast cancer mouse xenograft model.⁶ Mutations in MRE11 are associated with ataxia-telangiectasia-like disorder (ATLD) and cancer.^{5,7} Cayman's MRE11 (human, recombinant; aa 1-411) protein has a calculated molecular weight of 74.7 kDa.

References

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4. Petrini, J.H., Walsh, M.E., DiMare, C., *et al.* Isolation and characterization of the human MRE11 homologue. *Genomics* **29**(1), 80-86 (1995).
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