

MRE11 Antibody
Catalog # ASC11039**Specification**

MRE11 Antibody - Product Information

Application	IF
Primary Accession	P49959
Other Accession	EAW66932 , 4361
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	MRE11 antibody can be used for detection of MRE11 by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.

MRE11 Antibody - Additional InformationGene ID **4361****Target/Specificity**

MRE11 antibody was raised against a 14 amino acid synthetic peptide from near the amino terminus human MRE11.

The immunogen is located within amino acids 40 - 90 of MRE11.

Reconstitution & Storage

MRE11 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions

MRE11 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

MRE11 Antibody - Protein InformationName MRE11 ([HGNC:7230](#))

Synonyms HNGS1, MRE11A

Function

Component of the MRN complex, which plays a central role in double-strand break (DSB) repair, DNA recombination, maintenance of telomere integrity and meiosis (PubMed:9651580, PubMed:9590181, PubMed:9705271, PubMed:11741547, PubMed:29670289). The complex

possesses single-strand endonuclease activity and double-strand- specific 3'-5' exonuclease activity, which are provided by MRE11 (PubMed:9651580, PubMed:9590181, PubMed:9705271, PubMed:11741547, PubMed:29670289). RAD50 may be required to bind DNA ends and hold them in close proximity (PubMed:9651580, PubMed:9590181, PubMed:9705271, PubMed:11741547, PubMed:29670289). This could facilitate searches for short or long regions of sequence homology in the recombining DNA templates, and may also stimulate the activity of DNA ligases and/or restrict the nuclease activity of MRE11 to prevent nucleolytic degradation past a given point (PubMed:9651580, PubMed:9590181, PubMed:9705271, PubMed:11741547, PubMed:29670289, PubMed:30612738). The complex may also be required for DNA damage signaling via activation of the ATM kinase (PubMed:15064416). In telomeres the MRN complex may modulate t-loop formation (PubMed:10888888).

Cellular Location

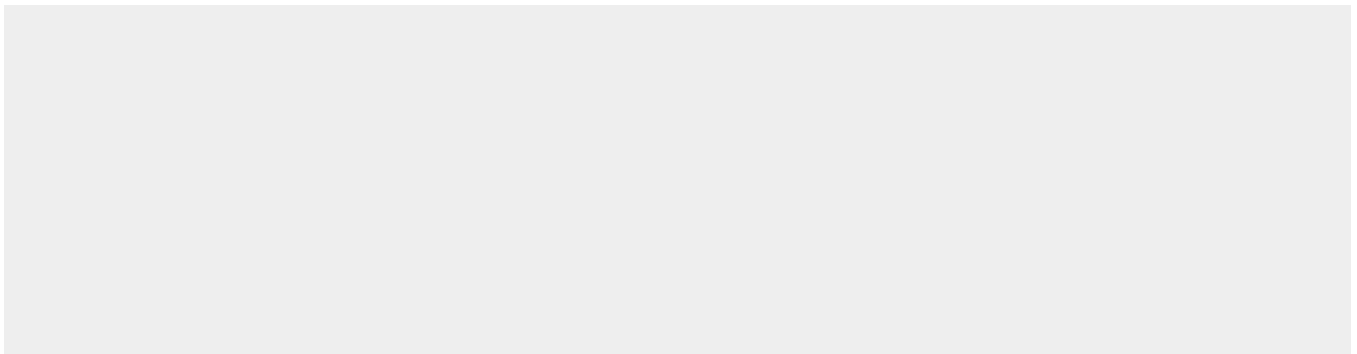
Nucleus. Chromosome, telomere. Chromosome. Note=Localizes to discrete nuclear foci after treatment with genotoxic agents.

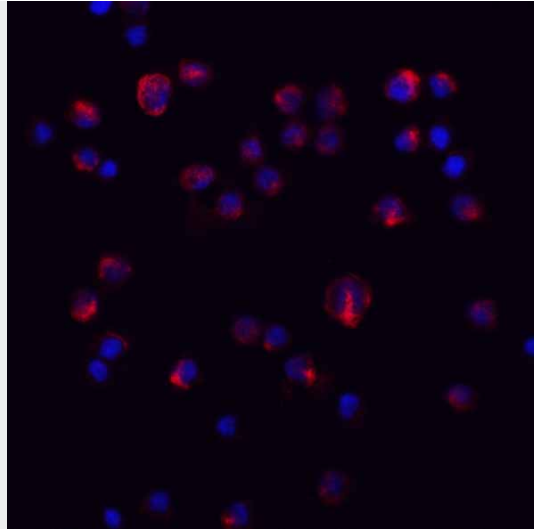
MRE11 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

MRE11 Antibody - Images





Immunofluorescence of IL-11 in HeLa cells with IL-11 antibody at 20 µg/ml.

MRE11 Antibody - Background

MRE11 Antibody: MRE11 is involved in the repair of DNA double strand breaks as part of a complex that includes the Rad50 and NBS1 protein and is thought to act in the same pathway as the A-T mutated (ATM) protein. 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 non-homologous 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. Mutations in this protein result in a novel ataxia telangiectasia-like disorder (ATLD). Unlike the ATM protein, MRE11 is necessary proper mammalian development.

MRE11 Antibody - References

Stewart GS, Maser RS, Stankovic T, et al. The DNA double-strand break repair gene hMRE11 is mutated in individuals with an ataxia telangiectasia-like disorder. *Cell*1999; 99:577-87.
Buis J, Wu Y, Deng Y, et al. Mre11 nuclease activity has essential roles in DNA repair and genomic stability distinct from ATM activation. *Cell*2008; 135:85-96.