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Anti-Mre11 (S. cerevisiae) (RABBIT) Antibody

Mre11 Antibody
Catalog # ASR5308

Specification

Anti-Mre11 (S. cerevisiae) (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Saccharomyces cerevisiae**
Reactivity	**Saccharomyces cerevisiae**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**This affinity purified antibody has been tested for use in ELISA and by ChIP assay. Specific conditions for reactivity should be optimized by the end user.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region near amino acids 575-600 of Saccharomyces cerevisiae (baker's yeast) Mre11 protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-Mre11 (S. cerevisiae) (RABBIT) Antibody - Additional Information

Gene ID 855264

Other Names
4361

Purity
This affinity-purified antibody is directed against Saccharomyces cerevisiae Mre11 protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest that little cross reactivity should be expected with this protein from other sources.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Mre11 (S. cerevisiae) (RABBIT) Antibody - Protein Information

Name MRE11 {ECO:0000303|PubMed:7789757, ECO:0000312|SGD:S000004837}

Function
Core 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:14522986, PubMed:22002605, PubMed:22705791, PubMed:23080121, PubMed:7625279, PubMed:9651580). The MRN complex is involved in the repair of DNA double-strand breaks (DSBs) via homologous recombination (HR), an error-free mechanism which primarily occurs during S and G2 phases (PubMed:22002605, PubMed:22705791, PubMed:23080121). The complex (1) mediates the end resection of damaged DNA, which generates proper single-stranded DNA, a key initial steps in HR, and is (2) required for the recruitment of other repair factors and efficient activation of ATM and ATR upon DNA damage (PubMed:22002605, PubMed:23080121). Within the MRN complex, MRE11 possesses both single-strand endonuclease activity and double-strand-specific 3'-5' exonuclease activity (PubMed:14522986, PubMed:22002605). MRE11 first endonucleolytically cleaves the 5' strand at DNA DSB ends to prevent non-homologous end joining (NHEJ) and licence HR (PubMed:23080121). It then generates a single-stranded DNA gap via 3' to 5' exonucleolytic degradation, which is required for single-strand invasion and recombination (PubMed:22002605). The MRN complex is also required for the processing of R-loops (PubMed:31537797).

Cellular Location
Nucleus. Chromosome, telomere {ECO:0000250|UniProtKB:P49959}. Chromosome {ECO:0000250|UniProtKB:P49959}. Note=Localizes to discrete nuclear foci after treatment with genotoxic agents. {ECO:0000250|UniProtKB:P49959}

Anti-Mre11 (S. cerevisiae) (RABBIT) 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 Cytomety
- Cell Culture

Anti-Mre11 (S. cerevisiae) (RABBIT) Antibody - Images

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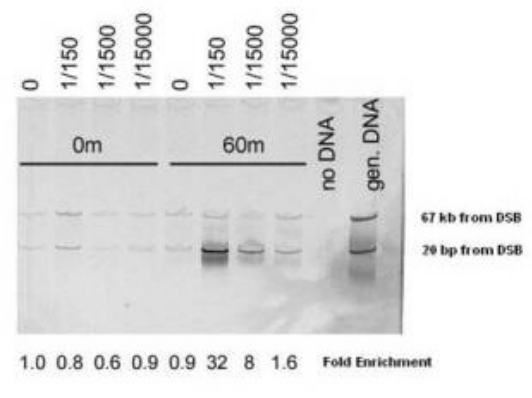

Chromatin Immunoprecipitation (ChIP) using Rockland's Affinity Purified Mre11 (S. cerevisiae) antibody. A yeast strain containing the HO endonuclease gene controlled by a galactose-inducible promoter (uninduced 0m lanes) was shifted into galactose containing medium (induced 60m lanes). After 1 hour of induction cells were cross-linked with formaldehyde followed by preparation of sheared chromatin. Chromatin was immunoprecipitated with the antibody at the stated dilutions. Immunocomplexes were captured using polyacrylamide bead linked secondary antibodies. The resultant immunoprecipitate was probed by multiplex PCR, using primers 20 bp from the MAT locus double strand break (lower band) and 67 kb from the break (upper band, control locus). PCR products were displayed on a polyacrylamide gel, stained with SyBR Green® (Invitrogen), and detected using a Fuji scanning fluorometer. Personal Communication. Michael Lichten, NIH, CCR, Bethesda, MD.

Anti-Mre11 (S. cerevisiae) (RABBIT) Antibody - Background

Mre11 (also known as double-strand break repair protein MRE11) is a subunit of a complex with Rad50 and Xrs2 (RMX complex) that functions in repair of DNA double-strand breaks and in telomere stability. Mre11 possesses single-strand endonuclease activity and double-strand-specific 3'-5' exonuclease activity that appears to be required for RMX function. This nuclear protein is widely conserved and is also involved in meiotic double strand break processing.