

#4895 Store at -20C

Mre11 Antibody



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Applications: WB, IP, IHC-P	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 81	Source: Rabbit	UniProt ID: #P49959	Entrez-Gene Id: 4361
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Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunohistochemistry (Paraffin)	1:500

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Mre11 Antibody detects endogenous levels of Mre11 homologue A (Mre11A). The antibody may cross-react with Mre11 homologue B (Mre11B).

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys496 of human Mre11A. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Mre11, originally described in genetic screens from the yeast *Saccharomyces cerevisiae* in which mutants were defective in meiotic recombination (1), is a central part of a multisubunit nuclease composed of Mre11, Rad50 and Nbs1 (MRN) (2,3). The MRN complex plays a critical role in sensing, processing and repairing DNA double strand breaks. Defects lead to genomic instability, telomere shortening, aberrant meiosis and hypersensitivity to DNA damage (4). Hypomorphic mutations of Mre11 are found in ataxia-telangiectasia-like disease (ATLD), with phenotypes similar to mutations in ATM that cause ataxia-telangiectasia (A-T), including a predisposition to malignancy in humans (5). Cellular consequences of ATLD include chromosomal instability and defects in the intra-S phase and G2/M checkpoints in response to DNA damage. The MRN complex may directly activate the ATM checkpoint kinase at DNA breaks (6).

Background References

1. Ajimura, M. et al. (1993) *Genetics* 133, 51-66.
2. D'Amours, D. and Jackson, S.P. (2002) *Nat Rev Mol Cell Biol* 3, 317-27.
3. van den Bosch, M. et al. (2003) *EMBO Rep* 4, 844-9.
4. Theunissen, J.W. et al. (2003) *Mol Cell* 12, 1511-23.
5. Stewart, G.S. et al. (1999) *Cell* 99, 577-87.
6. Carson, C.T. et al. (2003) *EMBO J* 22, 6610-20.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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