

#4895 Store at -20°C

# Mre11 Antibody

✓ 100 µl (10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Entrez-Gene ID #4361  
Swiss-Prot Acc. #P49959

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IHC-P, IHC-F Endogenous	H, M, R, Mk	81 kDa	Rabbit**

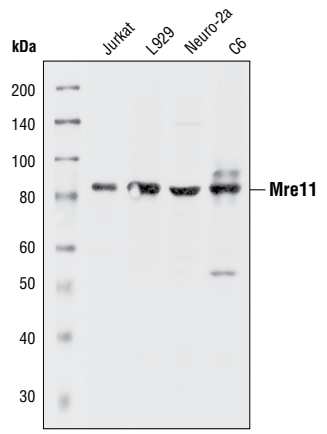
**Background:** Mre11, originally described in genetic screens from the yeast *Saccharomyces cerevisiae* in which mutants were defective in meiotic recombination (1), is a central part of a multisubunit nuclease composed of Mre11, Rad50 and Nbs1 (MRN) (2,3). The MRN complex plays a critical role in sensing, 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).

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

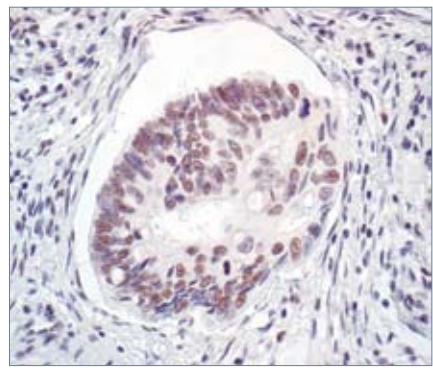
**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys496 of human Mre11A. Antibodies are purified by protein A and peptide affinity chromatography.

**Background 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, 317–327.
- (3) van den Bosch, M. et al. (2003) *EMBO Rep.* 4, 844–849.
- (4) Theuissen, J.F. et al. (2003) *Mol. Cell* 12, 1511–1523.
- (5) Stewart, G.S. et al. (1999) *Cell* 99, 577–587.
- (6) Carson, C.T. et al. (2003) *EMBO J.* 22, 6610–6620.



Western blot analysis of extracts from Jurkat (human), L929 (mouse), Neuro-2a (mouse) and C6 (rat) cells, using Mre11 Antibody.



Immunohistochemical analysis of paraffin-embedded human colon carcinoma, showing nuclear localization, using Mre11 Antibody.

**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.

\*Species cross-reactivity is determined by western blot.

\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**

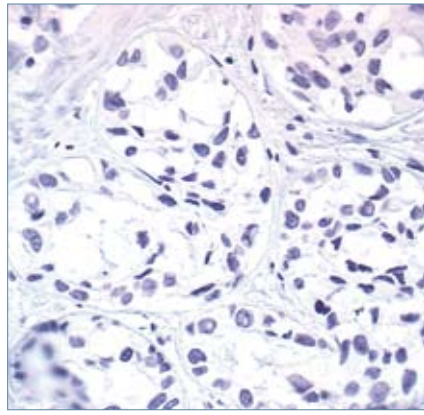
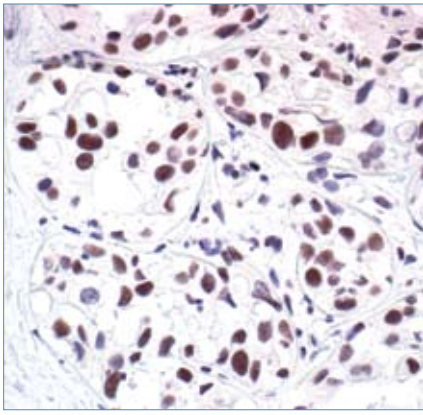
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunohistochemistry (Paraffin)	1:500
Unmasking buffer:	Citrate
Antibody diluent:	TBST-5%NGS
Immunohistochemistry (Frozen)	1:500
Fixative	10% Neutral Buffered Formalin

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

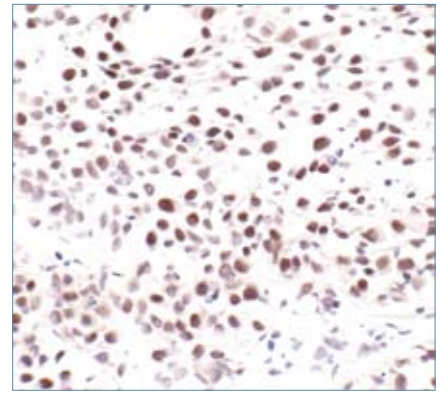
Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

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

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



*Immunohistochemical analysis of paraffin-embedded human breast carcinoma, using Mre11 Antibody in the presence of control peptide (left) or Mre11 Blocking Peptide #1035 (right).*



*Immunohistochemical analysis of H1650 xenograft, using Mre11 Antibody.*