

Mre11 Blocking Peptide



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Description: This peptide is used specifically to block Mre11 Antibody #4895 reactivity.

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).

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks Mre11 Antibody #4895 by peptide dot blot.

Directions for Use: Use as a blocking reagent to evaluate the specificity of antibody reactivity in peptide dot blot protocols. Recommended antibody dilutions can be found on the relevant product data sheet.

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.

Entrez Gene ID #4361
UniProt ID #P49959

Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. 1% DMSO Store at -20°C.