SANTA CRUZ BIOTECHNOLOGY, INC.

Mre11 (yC-17): sc-26245

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The Power to Question

BACKGROUND

Multiple pathways promote short-sequence recombination (SSR) in *Saccharomyces cerevisiae*. When gene conversion is initiated by a double-strand break (DSB), any nonhomologous DNA that may be present at the ends must be removed before new DNA synthesis can be initiated. Removal of a 3' nonhomologous tail in *S. cerevisiae* depends on the nucleotide excision repair endonuclease Rad1/Rad10, and also on the mismatch repair proteins Msh2 and Msh3. Also important for SSR, is the Mre11 complex (also known as M/R/X), which is a multisubunit nuclease composed of Mre11, Rad50 and Xrs2/Nbs1. Genetic evidence suggests that Rad1/10 and M/R/X act on the same class of substrates during SSR. The Mre11 complex plays a central role in chromosomal maintenance and functions in homologous recombination, telomere maintenance and sister chromatid association. Mutations in the genes that encode components of the Mre11 complex result in DNA-damage sensitivity, genomic instability, telomere shortening and aberrant meiosis. Although the purified protein exhibits 3' to 5' exonuclease and endonuclease activities *in vitro*, Mre11 is implicated in the 5' to 3' resection of duplex ends *in vivo*.

REFERENCES

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3. Kearney, H.M., Kirkpatrick, D.T., Gerton, J.L., and Petes, T.D. 2001. Meiotic recombination involving heterozygous large insertions in *Saccharomyces cerevisiae*: formation and repair of large, unpaired DNA loops. Genetics 158: 1457-1476.
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SOURCE

Mre11 (yC-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Mre11 of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26245 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Mre11 (yC-17) is recommended for detection of Mre11 of Saccharomyces cerevisiae origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.