



Rad50 (yL-17): sc-30564

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' non-homologous 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 Nbs1/Xrs2. 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. Specifically, Rad50 contains a zinc-hook structure involved in joining MRE11 complexes in DNA recombination and repair.

REFERENCES

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2. Paques, F. and Haber, J.E. 1997. Two pathways for removal of nonhomologous DNA ends during double-strand break repair in *Saccharomyces cerevisiae*. *Mol. Cell. Biol.* 17: 6765-6771.
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4. D'Amours, D. and Jackson, S.P. 2002. The MRE11 complex: at the crossroads of DNA repair and checkpoint signalling. *Nat. Rev. Mol. Cell Biol.* 3: 317-327.
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SOURCE

Rad50 (yL-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Rad50 of *Saccharomyces cerevisiae* origin.

STORAGE

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

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-30564 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rad50 (yL-17) is recommended for detection of Rad50 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of Rad50: 180 kDa.

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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.