SANTA CRUZ BIOTECHNOLOGY, INC.

Rad51 (y-180): sc-33626

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

During meiotic prophase, homologous chromosomes pair with one another, undergo genetic recombination and engage in synaptonemal complex formation. These interhomolog interactions are necessary to establish chiasmata. If homologs fail to interact, or if crossing over takes place between nonhomologous chromosomes, homologs undergo nondisjunction at meiosis I and inviable meiotic products occur. Interactions between Rad51 and Rad52 are essential for DNA homologous recombination as well as for DNA double-strand break repair in *Saccharomyces cerevisiae*. Rad54, which is inducible by X-rays, is also involved in DNA repair and recombination in *Saccharomyces cerevisiae*. Hop2 is expressed during meiosis and may function to prevent synapsis between nonhomologous chromosomes. Hop2 is localized to chromosomes prior to and during synapsis.

REFERENCES

1. Adzuma, K., et al. 1984. Primary structure of the Rad52 gene in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 4: 2735-2744.
2. Basile, G., et al. 1992. Nucleotide sequence and transcriptional regulation of the yeast recombinational repair gene Rad51. Mol. Cell. Biol. 12: 3235-3346.
3. Shinohara, A., et al. 1992. Rad51 protein involved in repair and recombination in *S. cerevisiae* is a RecA-like protein. Cell 69: 457-470.
4. Tsukamoto, Y., et al. 1996. Effects of mutations of Rad50, Rad51, Rad52, and related genes on illegitimate recombination in *Saccharomyces cerevisiae*. Genetics 142: 383-391.

SOURCE

Rad51 (y-180) is a rabbit polyclonal antibody raised against amino acids 1-180 mapping at the N-terminus of Rad51 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.

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.

APPLICATIONS

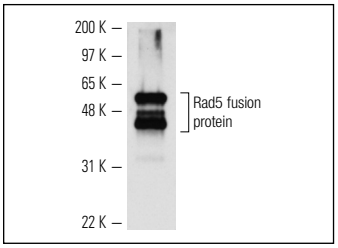
Rad51 (y-180) is recommended for detection of Rad51 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Rad51: 37 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Rad51 (y-180): sc-33626. Western blot analysis of yeast recombinant Rad51 fusion protein.

SELECT PRODUCT CITATIONS

1. Kalocsay, M., et al. 2009. Chromosome-wide Rad51 spreading and SUMO-H2A.Z-dependent chromosome fixation in response to a persistent DNA double-strand break. Mol. Cell 33: 335-343.
2. Brar, G.A., et al. 2009. The multiple roles of cohesin in meiotic chromosome morphogenesis and pairing. Mol. Biol. Cell 20: 1030-1047.
3. Lin, Y.H., et al. 2009. Recruitment of Rad51 and Rad52 to short telomeres triggers a Mec1-mediated hypersensitivity to double-stranded DNA breaks in senescent budding yeast. PLoS ONE 4: e8224.
4. Yeung, M. and Durocher, D. 2011. Srs2 enables checkpoint recovery by promoting disassembly of DNA damage foci from chromatin. DNA Repair 10: 1213-1222.

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **Rad51 (G-5): sc-133089**, our highly recommended monoclonal alternative to Rad51 (y-180).