



## Rad54 (yK-21): sc-30568

### BACKGROUND

During meiotic prophase, homologous chromosomes pair with one another, undergo genetic recombination, and engage in synaptonemal complex formation. These interhomologue interactions are necessary to establish chiasmata. If homologues fail to interact, or if crossing over takes place between nonhomologous chromosomes, homologues 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 *S. cerevisiae*. Rad54, which is inducible by X-rays, is also involved in DNA repair and recombination *S. 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. Leu, J.Y., Chua, P.R., and Roeder, G.S. 1998. The meiosis-specific Hop2 protein of *S. cerevisiae* ensures synapsis between homologous chromosomes. *Cell* 94: 375-386.
2. Petukhova, G., Stratton, S., and Sung, P. 1998. Catalysis of homologous DNA pairing by yeast Rad51 and Rad54 proteins. *Nature* 393: 91-94.
3. Basile, G., Aker, M., and Mortimer, R.K. 1992. Nucleotide sequence and transcriptional regulation of the yeast recombinational repair gene RAD51. *Mol. Cell. Biol.* 12: 3235-3346.
4. Shinohara, A., Ogawa, H., and Ogawa, T. 1992. Rad51 protein involved in repair and recombination in *S. cerevisiae* is a RecA-like protein. *Cell* 69: 457-470.
5. Adzuma, K., Ogawa, T., and Ogawa, H. 1984. Primary structure of the RAD52 gene in *Saccharomyces cerevisiae*. *Mol. Cell. Biol.* 4: 2735-2744 .

### SOURCE

Rad54 (yK-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Rad54 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-30568 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### STORAGE

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

### APPLICATIONS

Rad54 (yK-21) is recommended for detection of Rad54 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.