SANTA CRUZ BIOTECHNOLOGY, INC.

Rad55 (y-300): sc-98258

BACKGROUND

The process of homologous recombination is a major DNA repair pathway that operates on DNA double-strand breaks to promote error-free repair. Central to the process of homologous recombination are the RAD52 group genes (RAD50, RAD51, RAD52, RAD54, RDH54/TID1, RAD55, RAD57, RAD59, MRE11, and XRS2), most of which were identified by their requirement for the repair of ionizing-radiation-induced DNA damage in *Saccharomyces cerevisiae*. The *Saccharomyces cerevisiae*. RAD51, RAD55 and RAD57 genes, required for genetic recombination and DNA double-strand-break repair, encode proteins homologous to one another and to the *Escherichia coli* RecA protein (sung97). The Rad55 and Rad57 encoded products exist as a stable heterodimer.

REFERENCES

1. Lovett, S.T., et al. 1994. Sequence of the RAD55 gene of *Saccharomyces cerevisiae*. similarity of RAD55 to prokaryotic RecA and other RecA-like proteins. Gene 142: 103-106.
2. Hays, S.L., et al. 1995. Complex formation in yeast double-strand break repair: participation of Rad51, Rad52, Rad55, and Rad57 proteins. Proc. Natl. Acad. Sci. USA 92: 6925-6929.
3. Johnson, R.D., et al. 1995. Functional differences and interactions among the putative RecA homologs Rad51, Rad55, and Rad57. Mol. Cell. Biol. 15: 4843-4850.
4. Sung, P. 1997. Yeast Rad55 and Rad57 proteins form a heterodimer that functions with replication protein A to promote DNA strand exchange by Rad51 recombinase. Genes Dev. 11: 1111-1121.
5. Bashkirov, V.I., et al. 2000. DNA repair protein Rad55 is a terminal substrate of the DNA damage checkpoints. Mol. Cell. Biol 20: 4393-4404.
6. Symington, L.S. 2002. Role of RAD52 epistasis group genes in homologous recombination and double-strand break repair. Microbiol. Mol. Biol. Rev. 66: 630-670.
7. Sugawara, N., et al. 2003. *In vivo* roles of Rad52, Rad54, and Rad55 proteins in Rad51-mediated recombination. Mol. Cell 12: 209-219.
8. SWISS-PROT/TrEMBL (P38953). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

SOURCE

Rad55 (y-300) is a rabbit polyclonal antibody raised against amino acids 141-294 mapping at the C-terminus of Rad55 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.

APPLICATIONS

Rad55 (y-300) is recommended for detection of Rad55 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).

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.

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.