SANTA CRUZ BIOTECHNOLOGY, INC.

Rad30 (yC-18): sc-11868

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cells subjected to irradiation with ultraviolet light (UV) suffer DNA damage in the form of covalent linkage between adjacent pyrimidines. DNA repair can occur in either an error-free mechanism, which has the ability to correctly replicate past the lesion, or via an error-prone mechanism, which replicates DNA despite an unrepaired lesion. The error-prone mechanism is referred to as translesion synthesis (TLS) and it has the ability to incorporate new mutations into the genome, which is a potential origin of cancer. Rad30 (also designated DNApolymerase h (Pol h) or xeroderma pigmentosum variant (XPV)) is able to replicate in an error-free manner past a cis-syn-thymine-thymine dimer in *S. cerevisiae*. The Rev1, Rev3, and Rev7 proteins are the subunits of DNA polymerase z (Pol-z), which is involved in translesion synthesis. In *S. cerevisiae*, Rnr1 is a ribonucleotide reductase that catalyzes the rate-limiting step in the production of deoxyribonucleotides essential for DNA synthesis and repair.

REFERENCES

1. Elledge, S.J. and Davis, R.W. 1990. Two genes differentially regulated in the cell cycle and by DNA-damaging agents encode alternative regulatory subunits of ribonucleotide reductase. Genes Dev. 4: 740-751.
2. Baynton, K., Bresson-Roy, A., and Fuchs, R.P. 1999. Distinct roles for Rev1p and Rev7p during translesion synthesis in *Saccharomyces cerevisiae*. Mol. Microbiol. 34: 124-133.
3. McGregor, W.G. 1999. DNA repair, DNA replication, and UV mutagenesis. J. Investig. Dermatol. Symp. Proc. 4: 1-5.
4. Baynton, K. and Fuchs, R.P. 2000. Lesions in DNA: hurdles for polymerases. Trends Biochem. Sci. 25: 74-79.
5. Yuan, F., Zhang, Y., Rajpal, D.K., Wu, X., Guo, D., Wang, M., Taylor, J.S., and Wang, Z. 2000. Specificity of DNA lesion bypass by the yeast DNA polymerase eta. J. Biol. Chem. 275: 8233-8239.

SOURCE

Rad30 (yC-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Rad30 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-11868 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.

PROTOCOLS

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

APPLICATIONS

Rad30 (yC-18) is recommended for detection of Rad30 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) 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.

RESEARCH USE

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