



Rnr1 (yE-17): sc-11981

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 DNA polymerase 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

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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

Rnr1 (yE-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Rnr1 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-11981 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

Rnr1 (yE-17) is recommended for detection of Rnr1 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.