SANTA CRUZ BIOTECHNOLOGY, INC.

Sir3 (yN-20): sc-33903

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Telomeric DNA is bound by the transcription regulator Rap1 (repressor activator protein 1, also designated Grf1). In addition to playing a role in silencing the HM mating-type loci, Rap1 is involved in the repression of genes located adjacent to the telomeres, a phenomenon known as telomere position effect (TPE). The silent information regulator proteins Sir2 (also designated Mar1), Sir3 (also designated Mar2, Ste8 or Cmt1) and Sir4 (also designated Ste9, Asd1 or Uth2) form a complex with Rap1. These proteins are essential for TPE silencing and HM structure. Sir1 is essential for silencing the HM mating-type loci, but it has no effect on TPE. Tel1, a member of the PI 3-kinase family and a homolog of the human ataxia telangiectasia protein, is involved in controlling telomere length. Hdf1 (also referred to as Ku-70), a homolog of the mammalian Ku-70, also plays a role in maintaining telomere length.

REFERENCES

1. Kyrion, G., et al. 1993. RAP1 and telomere structure regulate telomere position effects in *Saccharomyces cerevisiae*. Genes Dev. 7: 1146-1159.
2. Palladino, F., et al. 1993. Sir3 and Sir4 proteins are required for the positioning and integrity of yeast telomeres. Cell 75: 543-555.
3. Cockell, M., et al. 1995. The carboxy termini of Sir4 and Rap1 affect Sir3 localization: evidence for a multicomponent complex required for yeast telomeric silencing. J. Cell Biol. 129: 909-924.
4. Greenwell, P.W., et al. 1995. Tel1, a gene involved in controlling telomere length in *S. cerevisiae*, is homologous to the human ataxia telangiectasia gene. Cell 82: 823-829.
5. Porter, S.E., et al. 1996. The DNA-binding protein Hdf1p (a putative Ku homologue) is required for maintaining normal telomere length in *Saccharomyces cerevisiae*. Nucleic Acids Res. 24: 582-585.
6. Tsukamoto, Y., Kato, J.I. and Ikeda, H. 1997. Silencing factors participate in DNA repair and recombination in *Saccharomyces cerevisiae*. Nature 388: 900-903.

SOURCE

Sir3 (yN-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Sir3 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-33903 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.

RESEARCH USE

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

APPLICATIONS

Sir3 (yN-20) is recommended for detection of Sir3 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.

PROTOCOLS

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