



STH1 (γ A-13): sc-33289

BACKGROUND

The chromatin structure remodeling complex, or RSC, is involved in cell growth in *S. cerevisiae*. Nuclear protein STH1/NPS1, or STH1, is a part of the RSC complex and is an ATPase. Single stranded DNA stimulates the ATPase activity of STH1 and subsequent nucleosome remodeling. STH1 is also necessary for the progression through the G₂/M phase of mitotic division. STH1 shares sequence homology with the protein SNF2, with 72% identity over a 661 amino acid region.

REFERENCES

1. Laurent, B.C., et al. 1992. An essential *Saccharomyces cerevisiae* gene homologous to SNF2 encodes a helicase-related protein in a new family. *Mol. Cell. Biol.* 12: 1893-1902.
2. Du, J., et al. 1998. STH1p, a *Saccharomyces cerevisiae* Snf2p/SWI2p homolog, is an essential ATPase in RSC and differs from SNF/SWI in its interactions with histones and chromatin-associated proteins. *Genetics* 150: 987-1005.
3. Tsuchiya, E., et al. 1998. A mutation in NPS1/STH1, an essential gene encoding a component of a novel chromatin-remodeling complex RSC, alters the chromatin structure of *Saccharomyces cerevisiae* centromeres. *Nucleic Acids Res.* 26: 3286-3292.
4. Treich, I., et al. 1998. Direct interaction between Rsc6 and Rsc8/Swh3, two proteins that are conserved in SWI/SNF-related complexes. *Nucleic Acids Res.* 26: 3739-3745.
5. Yukawa, M., et al. 1999. NPS1/STH1p, a component of an essential chromatin-remodeling complex of *Saccharomyces cerevisiae*, is required for the maximal expression of early meiotic genes. *Genes Cells* 4: 99-110.
6. Koyama, H., et al. 2002. Abundance of the RSC nucleosome-remodeling complex is important for the cells to tolerate DNA damage in *Saccharomyces cerevisiae*. *FEBS Lett.* 531: 215-221.
7. Saha, A., et al. 2002. Chromatin remodeling by RSC involves ATP-dependent DNA translocation. *Genes Dev.* 16: 2120-2134.
8. Hsu, J.M., et al. 2003. The yeast RSC chromatin-remodeling complex is required for kinetochore function in chromosome segregation. *Mol. Cell. Biol.* 23: 3202-3215.
9. Koyama, H., et al. 2004. RSC nucleosome-remodeling complex plays prominent roles in transcriptional regulation throughout budding yeast gametogenesis. *Biosci. Biotechnol. Biochem.* 68: 909-19.

SOURCE

STH1 (γ A-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of STH1 of *Saccharomyces cerevisiae* origin.

STORAGE

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33289 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

STH1 (γ A-13) is recommended for detection of STH1 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).

Molecular Weight of STH1: 157 kDa.

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 or our catalog for detailed protocols and support products.