

# Spt3 (yS-14): sc-26258

## BACKGROUND

The transcription of many RNA polymerase II-dependent genes requires Spt3, a member of the *S. cerevisiae* SAGA complex. Transcription from delta sequences, the long terminal repeats that flank yeast Ty elements, requires the yeast SPT3 gene. Spt3 and Spt20 work together to recruit TATA-box binding protein (TBP) to the core promoter allowing TBP to bind to SAGA-dependent promoters. Null mutations in the Spt3 gene cause defects in sporulation, diploid filamentous growth, and haploid invasive growth, indicating that Spt3 has an important role in both mating and development pathways in yeast. At the promoters of some genes including yeast HO, HIS3 and TRP3 genes, Spt3 inhibits binding of TBP, resulting in reduced transcription. This repressive effect of Spt3 can be overcome by another member of the SAGA complex, GCN5, which promotes the formation of a TBP/TFIIA complex by histone acetylation.

## REFERENCES

1. Winston, F., Minehart, P.L. 1986. Analysis of the yeast SPT3 gene and identification of its product, a positive regulator of Ty transcription. *Nucleic Acids Res.* 14: 6885-900.
2. Dudley, A.M., Rougeulle, C., Winston, F. 1999. The Spt components of SAGA facilitate TBP binding to a promoter at a post-activator-binding step *in vivo*. *Genes Dev.* 13: 2940-5.
3. Bhaumik, S.R., Green, M.R. 2002. Differential requirement of SAGA components for recruitment of TATA-box-binding protein to promoters *in vivo*. *Mol. Cell Biol.* 22: 7365-71.
4. Laprade, L., Boyartchuk, V.L., Dietrich, W.F., Winston, F. 2002. Spt3 plays opposite roles in filamentous growth in *Saccharomyces cerevisiae* and *Candida albicans* and is required for *C. albicans* virulence. *Genetics.* 161: 509-19.
5. Sterner, D.E., Belotserkovskaya, R., Berger, S.L. 2002. SALSA, a variant of yeast SAGA, contains truncated Spt7, which correlates with activated transcription. *Proc. Natl. Acad. Sci. USA.* 99: 11622-7.
6. Yu, Y., Eriksson, P., Bhoite, L.T., Stillman, D.J. 2003. Regulation of TATA-binding protein by the SAGA complex and the Nhp6 high-mobility group protein. *Mol. Cell Biol.* 23: 1910-21.

## SOURCE

Spt3 (yS-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Spt3 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-26258 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

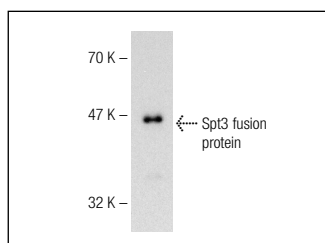
Spt3 (yS-14) is recommended for detection of Spt3 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Spt3 isoforms: 44/36/37 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



Spt3 (yS-14): sc-26258. Western blot analysis of yeast recombinant Spt3 fusion protein.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.