

Spt3 (C-1): sc-393567

BACKGROUND

The transcription of many RNA polymerase II-dependent genes requires Spt3, a member of the *S. cerevisiae* SAGA complex. Transcription from δ 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. and 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: 6885-6900.
2. Dudley, A.M. and 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: 2940-2945.
3. Bhaumik, S.R. and Green, M.R. 2002. Differential requirement of SAGA components for recruitment of TATA-box-binding protein to promoters *in vivo*. *Mol. Cell. Biol.* 22: 7365-7371.
4. Laprade, L., Boyartchuk, V.L., Dietrich, W.F. and 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: 509-519.
5. Sterner, D.E., Belotserkovskaya, R. and Berger, S.L. 2002. SALSA, a variant of yeast SAGA, contains truncated Spt7, which correlates with activated transcription. *Proc. Natl. Acad. Sci. USA* 99: 11622-11627.
6. Yu, Y., Eriksson, P., Bhoite, L.T. and Stillman, D.J. 2003. Regulation of TATA-binding protein by the SAGA complex and the Nhp6 high-mobility group protein. *Mol. Cell. Biol.* 23: 1910-1921.

SOURCE

Spt3 (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 92-113 within an internal region of Spt3 of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393567 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

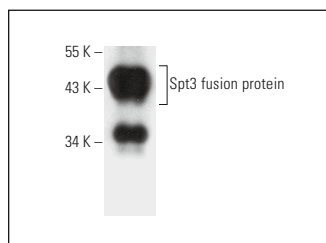
Spt3 (C-1) is recommended for detection of Spt3 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Spt3: 44/36/37 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Spt3 (C-1): sc-393567. Western blot analysis of *Saccharomyces cerevisiae* 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 for detailed protocols and support products.