



## Msn4 (yE-19): sc-15550

### BACKGROUND

Commitment to cell division occurs at a point late in the G<sub>1</sub> phase of the cell cycle, termed Start. Passage through Start requires the activation of the Cdc28 protein kinase by the cell cycle-regulated G<sub>1</sub> cyclins. Maximal expression of these G<sub>1</sub> cyclins is induced by the heterodimeric transcription factor complex composed of Swi4 (also designated Art1) and Swi6. Swi4 is the DNA-binding subunit of this complex. In addition to binding Swi4, Swi6 forms a complex with Mbp1. This complex activates S-phase cyclins and genes involved in DNA synthesis. Rpb1 is the largest subunit of the yeast RNA polymerase II. Srb4 is a basal transcription factor that is essential for the establishment of the transcription initiation apparatus. Stress factors induce transcription through the induction of various transcription factors. Yap1 activates expression in response to oxidative stress, while Msn2 and Msn4 mediate transcription via the stress response element (STRE).

### REFERENCES

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2. Koch, C., Schlieffer, A., Ammerer, G., and Nasmyth, K. 1996. Switching transcription on and off during the yeast cell cycle: Cln/Cdc28 kinases activate bound transcription factor SBF (Swi4/Swi6) at start, whereas Clb/Cdc28 kinases displace it from the promoter in G<sub>2</sub>. *Genes and Dev.* 10: 129-141.
3. Siegmund, R.F. and Nasmyth, K.A. 1996. The *Saccharomyces cerevisiae* Start-specific transcription factor Swi4 interacts through the ankyrin repeats with the mitotic Clb2/Cdc28 kinase and through its conserved carboxy terminus with Swi6. *Mol. Cell. Biol.* 16: 2647-2655.
4. Harrington, L.A. and Andrews, B.J. 1996. Binding to the yeast Swi4, 6-dependent cell cycle box, CACGAAA, is cell cycle regulated *in vivo*. *Nucl. Acids Res.* 24: 558-565.
5. Holstege, F.C., Jennings, E.G., Wyrick, J.J., Lee, T.I., Hengartner, C.J., Green, M.R., Golub, T.R., Lander, E.S., and Young, R.A. 1998. Dissecting the regulatory circuitry of a eukaryotic genome. *Cell* 95: 717-728.
6. Moskvina, E., Imre, E.M., and Ruis, H. 1999. Stress factors acting at the level of the plasma membrane induce transcription via the stress response element (STRE) of the yeast *Saccharomyces cerevisiae*. *Mol. Microbiol.* 32: 1263-1272.
7. Delaunay, A., Isnard, A.D., and Toledano, M.B. 2000. H<sub>2</sub>O<sub>2</sub> sensing through oxidation of the Yap1 transcription factor. *EMBO J.* 19: 5157-5166.

### SOURCE

Msn4 (yE-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Msn4 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 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-15550 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

Msn4 (yE-19) is recommended for detection of Msn4 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.

### SELECT PRODUCT CITATIONS

1. Erkina, T.Y., et al. 2008. Different requirements of the SWI/Snf complex for robust nucleosome displacement at promoters of heat shock factor and Msn2- and Msn4-regulated heat shock genes. *Mol. Cell. Biol.* 28: 1207-1217.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.