



## Msn2 (γ-300): sc-33631

### 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 (also designated Mpb1). 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

1. Koch, T., et al. 1993. A role for the transcription factors Mbp1 and Swi4 in progression from G<sub>1</sub> to S phase. *Science* 261: 1551-1557.
2. Koch, C., et al. 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 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*. *Nucleic Acids Res.* 24: 558-565.
5. Holstege, F.C., et al. 1998. Dissecting the regulatory circuitry of a eukaryotic genome. *Cell* 95: 717-728.
6. Moskvina, E., et al. 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., et al. 2000. H<sub>2</sub>O<sub>2</sub> sensing through oxidation of the Yap1 transcription factor. *EMBO J.* 19: 5157-5166.

### SOURCE

Msn2 (γ-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Msn2 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.

### STORAGE

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

### APPLICATIONS

Msn2 (γ-300) is recommended for detection of Msn2 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)], 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 goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### 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.
2. Lei, Q.Y. 2008. TAZ Promotes cell proliferation and epithelial-mesenchymal transition and is inhibited by the hippo pathway. *Mol. Cell. Biol.* 28: 2426-2436.
3. Alejandro-Osorio, A.L., et al. 2009. The histone deacetylase Rpd3p is required for transient changes in genomic expression in response to stress. *Genome Biol.* 10: R57.

### 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.