



Mot1 (yD-19): sc-26755

BACKGROUND

Mot1 is an essential yeast Snf2/Swi2-related ATPase that exerts both positive and negative effects on gene expression. Recognition of the TATA box by the TATA-binding protein (TBP) is a highly regulated step in RNA polymerase II-dependent transcription. Mot1, an ATP-dependent regulator of basal transcription, removes TATA box-binding protein (TBP) from TATA sites. Additionally, Mot1 can assist in recruitment of TBP on promoters during gene activation. A member of the Snf2/Rad54 helicase family of proteins, Mot1 is a 1867 amino acid nuclear protein. Mot1 associates with active RNA polymerase (Pol) II and III promoters, and it is rapidly recruited in response to activator proteins. MOT1 function requires a 17 bp DNA 'handle' upstream of the TATA box, which must be double stranded. MOT1-catalyzed disruption of TBP-DNA does not appear to require DNA strand separation or DNA bending or twisting of the DNA helix. MOT1 uses ATP hydrolysis to translocate along the handle, thereby disrupting interactions between TBP and DNA.

REFERENCES

- Cang, Y., Auble, D.T. and Prelich, G. 1999. A new regulatory domain on the TATA-binding protein. *EMBO J.* 18: 6662-6671.
- Adamkewicz, J.I., Mueller, C.G., Hansen, K.E., Prud'homme, W.A. and Thorne, J. 2000. Purification and enzymic properties of Mot1 ATPase, a regulator of basal transcription in the yeast *Saccharomyces cerevisiae*. *J. Biol. Chem.* 275: 21158-21168.
- Adamkewicz, J.I., Hansen, K.E., Prud'homme, W.A., Davis, J.L. and Thorne, J. 2001. High affinity interaction of yeast transcriptional regulator, Mot1, with TATA box-binding protein (TBP). *J. Biol. Chem.* 276: 11883-11894.
- Darst, R.P., Wang, D. and Auble, D.T. 2001. Mot1-catalyzed TBP-DNA disruption: uncoupling DNA conformational change and role of upstream DNA. *EMBO J.* 20: 2028-2040.
- Dasgupta, A., Darst, R.P., Martin, K.J., Afshari, C.A. and Auble, D.T. 2002. Mot1 activates and represses transcription by direct, ATPase-dependent mechanisms. *Proc. Natl. Acad. Sci. USA* 99: 2666-2671.
- Andrau, J.C., Van Oevelen, C.J., Van Teeffelen, H.A., Weil, P.A., Holstege, F.C. and Timmers, H.T. 2002. Mot1p is essential for TBP recruitment to selected promoters during *in vivo* gene activation. *EMBO J.* 21: 5173-5183.
- Geisberg, J.V., Moqtaderi, Z., Kuras, L. and Struhl, K. 2002. Mot1 associates with transcriptionally active promoters and inhibits association of NC2 in *Saccharomyces cerevisiae*. *Mol. Cell. Biol.* 22: 8122-8134.

SOURCE

Mot1 (yD-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Mot1 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-26755 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Mot1 (yD-19) is recommended for detection of Mot1 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.

STORAGE

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

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.