SANTA CRUZ BIOTECHNOLOGY, INC.

Ndt80 (yP-18): sc-26450

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The Power to Question

BACKGROUND

The meiotic recombination checkpoint, which is triggered by defects in recombination or chromosome synapsis, arrests sporulating cells of *Saccharomyces cerevisiae* at pachytene by preventing accumulation of active Clb-Cdc28. Two known targets of the meiotic recombination checkpoint are NDT80 and SUM1. Progression through the middle phase of sporulation in *Saccharomyces cerevisiae* is promoted by the successful completion of recombination at the end of prophase I. Completion of meiotic recombination allows the activation of the sporulation-specific transcription factor Ndt80, which binds to a specific DNA sequence, the middle sporulation element (MSE), and activates approximately 150 genes to enable progression through meiosis. Inactivation of Ndt80 leads to failure to induce the middle sporulation genes and a subsequent arrest in pachytene. The initial transcription of Ndt80 is dependent upon the protein kinase Ime2; once Ndt80 protein accumulates, it activates its own promoter, thus generating an autoactivation loop. Sum1 is a repressor of Ndt80 and some MSGs. Activation of the checkpoint leads to inhibition of Ndt80 activity and to stabilization of Sum1.

REFERENCES

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3. Lamoureux, J.S., Stuart, D., Tsang, R., Wu, C., and Glover, J.N. 2002. Structure of the sporulation-specific transcription factor Ndt80 bound to DNA. EMBO J. 21: 5721-5732.
4. Clancy, M.J. 1998. Meiosis: step-by-step through sporulation. Curr. Biol. 8: R461-463.
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6. Sopko, R., Raithatha, S. and Stuart, D. 2002. Phosphorylation and maximal activity of *Saccharomyces cerevisiae* meiosis-specific transcription factor Ndt80 is dependent on Ime2. Mol. Cell. Biol. 22: 7024-7040.
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SOURCE

Ndt80 (yP-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Ndt80 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-26450 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ndt80 (yP-18) is recommended for detection of Ndt80 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.

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.