SANTA CRUZ BIOTECHNOLOGY, INC.

Dbf4 (yA-16): sc-5706

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The Power to Question

BACKGROUND

Cell cycle progression is controlled at a point late in G_1 designated Start. Passage through Start requires the activity of the cyclin-dependent protein kinase Cdc28. Transition from G_1 to S phase requires the association of Cdc28 with members of the G_1 cyclin family, including Cln1, Cln2 and Cln3 (also designated Daf1 or Wh11). Srb10 and Kin28 are members of the Cdc28 family of cyclin dependent kinases and are required for cell proliferation. The G_2 to M phase transition requires the M phase cyclins, Clb1 (also designated Scb1) and Clb2, as well as the G_2 cyclins, Clb3 and Clb4. The S phase cyclins, Clb5 and Clb6, coordinate DNA replication with cytokinesis. The Dbf4/Cdc7 protein kinase complex allows the activation of replication origins during S phase.

REFERENCES

1. Nasmyth, K. 1993. Control of the yeast cell cycle by the Cdc28 protein kinase. Curr. Opinion Cell Biol. 5: 166-179.
2. Sherlock, G., et al. 1993. Starting to cycle: G_1 controls regulating cell division in budding yeast. J. Gen. Microbiol. 139: 2531-2541.
3. Amon, A., et al. 1993. Mechanisms that help the yeast cell cycle clock tick: G_2 cyclins transcriptionally activate G_2 cyclins and repress G_1 cyclins. Cell 74: 993-1007.
4. Basco, R.D., et al. 1995. Negative regulation of G_1 and G_2 by S-phase cyclins of *Saccharomyces cerevisiae*. Mol. Cell. Biol. 15: 5030-5042.
5. Levine, K., et al. 1996. *Saccharomyces cerevisiae* G_1 cyclins differ in their intrinsic functional specificities. Mol. Cell. Biol. 16: 6794-6803.
6. Hengartner, C.J., et al. 1998. Temporal regulation of RNA polymerase II by Srb10 and Kin28 cyclin-dependent kinases. Mol. Cell 2: 43-53.
7. Ferreira, M.F., et al. 2000. Dbf4p, an essential S phase-promoting factor, is targeted for degradation by the anaphase-promoting complex. Mol. Cell. Biol. 20: 242-248.

SOURCE

Dbf4 (yA-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Dbf4 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-5706 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Dbf4 (yA-16) is recommended for detection of Dbf4 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Dbf4: 77 kDa.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

SELECT PRODUCT CITATIONS

1. Yaakov, G., et al. 2009. The stress-activated protein kinase Hog1 mediates S phase delay in response to osmostress. Mol. Biol. Cell 20: 3572-3582.
2. Duch, A., et al. 2011. A Dbf4 mutant contributes to bypassing the Rad53-mediated block of origins of replication in response to genotoxic stress. J. Biol. Chem. 286: 2486-2491.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.