SANTA CRUZ BIOTECHNOLOGY, INC.

Cln1 (yC-20): sc-6691

BACKGROUND

Cell cycle progression is controlled at a point late in G1 designated Start. Passage through Start requires the activity of the cyclin-dependent protein kinase Cdc28. Transition from G1 to S phase requires the association of Cdc28 with members of the G1 cyclin family, including Cln1, Cln2 and Cln3 (also designated Daf1 or Whi1). The G2 to M phase requires the M phase cyclins, Clb1 (also designated Scb1) and Clb2, as well as the G2 cyclins, Clb3 and Clb4. The S phase cyclins Clb5 and Clb6 coordinate DNA replication with cytokinesis. Expression of the cyclins is controlled by Ubc9 and Cdc34 (also designated Ubc3 or Dna6) via ubiquitin-mediated proteolysis. Esp1, a 180 kDa protein, is released from an inhibitory complex with Pds1 and stimulates the cleavage of Scc1 from chromosomes, which mediates sister chromatid dissociation during the metaphase to anaphase transition of the cell cycle.

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. and Rosamond, J. 1993. Starting to cycle: G1 controls regulating cell division in budding yeast. J. Gen. Microbiol. 139: 2531-2541.
3. Amon, A., Tyers, M., Futcher, B., and Nasmyth, K. 1993. Mechanisms that help the yeast cell cycle clock tick: G2 cyclins transcriptionally activate G2 cyclins and repress G1 cyclins. Cell 74: 993-1007.
4. Basco, R.D., Segal, M.D., and Reed., S.I. 1995. Negative regulation of G1 and G2 by S-phase cyclins of *Saccharomyces cerevisiae*. Mol. Cell. Biol. 15: 5030-5042.
5. Seufert, W., Futcher, B., and Jentsch, S. 1995. Role of a ubiquitin-conjugating enzyme in degradation of S- and M- phase cyclins. Nature 373: 78-81.
6. Prendergast, J.A., Ptak, C., Arnason, T.G., and Ellison, M.J. 1995. Increased ubiquitin expression suppresses the cell cycle defect associated with the yeast ubiquitin conjugating enzyme, CDC34 (UCB3). Evidence for a noncovalent interaction between CDC34 and ubiquitin. J. Biol. Chem. 270: 9347-9352.
7. Levine, K., Huang, K., and Cross, F.R. 1996. *Saccharomyces cerevisiae* G1 cyclins differ in their intrinsic functional specificities. Mol. Cell. Biol. 16: 6794-6803.
8. Blondel, M. and Mann, C. 1996. G2 cyclins are required for the degradation of G1 cyclins in yeast. Nature 384: 279-282.
9. Ciosk, R., Zachariae, W., Michaelis, C., Shevchenko, A., Mann, M., and Nasmyth, K. 1998. An ESP1/PDS1 complex regulates loss of sister chromatid cohesion at the metaphase to anaphase transition in yeast. Cell 93: 1067-1076.

SOURCE

Cln1 (yC-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Cln1 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-6691 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Cln1 (yC-20) is recommended for detection of Cln1 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.