SANTA CRUZ BIOTECHNOLOGY, INC.

iCdc28 (yC-20): sc-6709

SANTA CRUZ BIOTECHNOLOGY

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 WHI1). The G_2 to M phase 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. Expression of the cyclins is controlled by Ubc9 and Cdc34 (also designated Udc3 or Dna6) via ubiquitin-mediated proteolysis.

REFERENCES

1. Nasmyth, K. 1993. Control of the yeast cell cycle by the Cdc28 protein kinase. Curr. Opin. Cell Biol. 5: 166-179.
2. Sherlock, G. and Rosamond, J. 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. Seufert, W., et al. 1995. Role of a ubiquitin-conjugating enzyme in degradation of S- and M-phase cyclins. Nature 373: 78-81.

SOURCE

Cdc28 (yC-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Cdc28 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-6709 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Cdc28 (yC-20) is recommended for detection of Cdc28 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

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.

SELECT PRODUCT CITATIONS

1. Yeong, F.M., et al. 2000. Exit from mitosis in budding yeast: biphasic inactivation of the Cdc28-Clb2 mitotic kinase and the role of Cdc20. Mol. Cell 5: 501-511.
2. Berset, C., et al. 2002. Transferable domain in the G_1 cyclin Cln2 sufficient to switch degradation of Sic1 from the E3 ubiquitin ligase SCF^{Cdc4} to SCF^{Grr1}. Mol. Cell. Biol. 22: 4463-4476.
3. Mort-Bontemps-Soret, M., et al. 2002. Physical interaction of Cdc28 with Cdc37 in *Saccharomyces cerevisiae*. Mol. Genet. Genomics 267: 447-458.
4. Zhang, G., et al. 2006. Exit from mitosis triggers Chs2p transport from the endoplasmic reticulum to mother-daughter neck via the secretory pathway in budding yeast. J. Cell Biol. 174: 207-220.
5. Fey, J.P. and Lanker, S. 2007. Delayed accumulation of the yeast G_1 cyclins Cln1 and Cln2 and the F-box protein Grr1 in response to glucose. Yeast 24: 419-429.
6. Hood-DeGrenier, J.K., et al. 2007. Cytoplasmic Clb2 is required for timely inactivation of the mitotic inhibitor Swe1 and normal bud morphogenesis in *Saccharomyces cerevisiae*. Curr. Genet. 51: 1-18.
7. Benanti, J.A., et al. 2007. A proteomic screen reveals SCFGrr1 targets that regulate the glycolytic-gluconeogenic switch. Nat. Cell Biol. 9: 1184-1191.
8. Makrantoni, V. and Stark, M.J. 2009. Efficient chromosome biorientation and the tension checkpoint in *Saccharomyces cerevisiae* both require Bir1. Mol. Cell. Biol. 29: 4552-4562.
9. Kõivomägi, M., et al. 2011. Cascades of multisite phosphorylation control Sic1 destruction at the onset of S phase. Nature 480: 128-131.
10. Tzeng, Y.W., et al. 2011. Functions of the mitotic B-type cyclins CLB1, CLB2, and CLB3 at mitotic exit antagonized by the CDC14 phosphatase. Fungal Genet. Biol. 48: 966-978.
11. Foe, I.T., et al. 2011. Ubiquitination of Cdc20 by the APC occurs through an intramolecular mechanism. Curr. Biol. 21: 1870-1877.
12. Landry, B.D., et al. 2012. F-box protein specificity for g1 cyclins is dictated by subcellular localization. PLoS Genet. 8: e1002851.

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.