SANTA CRUZ BIOTECHNOLOGY, INC.

Sic1 (yC-19): sc-6713

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. This progression also requires the destruction of the S-phase cyclin/Cdk inhibitor, SIC1. SIC1 proteolysis is mediated in part by the ubiquitin-conjugating enzyme Cdc34. Cdc4, a potential ubiquitin-protein ligase, is also involved in the degradation of SIC1. Another protein thought to play a role in the ubiquitin-protein ligase complex is Cdc53. This protein binds to Cdc34 and targets phosphorylated G1 cyclins for ubiquitin-mediated degradation.

REFERENCES

1. Yochem, J. and Byers, B. 1987. Structural comparison of the yeast cell division cycle gene CDC4 and a related pseudogene. J. Mol. Biol. 195: 233-245.
2. Nasmyth, K. 1993. Control of the yeast cell cycle by the Cdc28 protein kinase. Curr. Opinion Cell Biol. 5: 166-179.
3. Sherlock, G. and Rosamond, J. 1993. Starting to cycle: G1 controls regulating cell division in budding yeast. J. Gen. Microbiol. 139: 2531-2541.
4. 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.
5. Knapp, D., Bhoite, L., Stillman, D.J. and Nasmyth, K. 1996. The transcription factor Swi5 regulates expression of the cyclin kinase inhibitor p40SIC1. Mol. Cell. Biol. 16: 5701-5707.
6. Willems, A.R., Lanker, S., Patton, E.E., Craig, K.L., Nason, T.F., Mathias, N., Kobayashi, R., Wittenberg, C. and Tyers, M. 1996. Cdc53 targets phosphorylated G1 cyclins for degradation by the ubiquitin proteolytic pathway. Cell 86: 453-463.
7. Verma, R., Feldman, R.M. and Deshaies, R.J. 1997. SIC1 is ubiquitinated *in vitro* by a pathway that requires CDC4, CDC34, and cyclin/CDK activities. Molec. Biol. Cell 8: 1427-1437.
8. Deshaies, R.J. 1997. Phosphorylation and proteolysis: partners in the regulation of cell division in budding yeast. Curr. Opin. Genet. and Dev. 7: 7-16.

SOURCE

Sic1 (yC-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Sic1 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-6713 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sic1 (yC-19) is recommended for detection of Sic1 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.

SELECT PRODUCT CITATIONS

1. Kamura, T., Koepp, D.M., Conrad, M.N., Skowyra, D., Moreland, R.J., Iliopoulos, O., Lane, W.S., Kaelin, W.G., Jr., Elledge, S.J., Conaway ,R.C., Harper, J.W. and Conaway, J.W. 1999. Rbx1, a component of the VHL tumor suppressor complex and SCF ubiquitin ligase. Science 284: 657-661.
2. Moriya, H., Shimizu-Yoshida, Y. and Kitano, H. 2006. *In vivo* robustness analysis of cell division cycle genes in *Saccharomyces cerevisiae*. PLoS Genet. 2: e111.

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.