SANTA CRUZ BIOTECHNOLOGY, INC.

Swe1 (y-311): sc-7171

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. The G_2 to M phase transition requires the M phase cyclins as well as the G_2 cyclins. The S phase cyclins coordinate DNA replication with cytokinesis. Expression of the cyclins is controlled via ubiquitin-mediated proteolysis. Cdc28 is regulated by the protein kinase Swe1. This protein, a homolog of the *Saccharomyces pombe* Wee1 protein, phosphorylates Cdc28 and inhibits its activity.

REFERENCES

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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. Basco, R.D., Segal, M.D. and Reed, S.I. 1995. Negative regulation of G_1 and G_2 by S-phase cyclins of *Saccharomyces cerevisiae*. Mol. Cell. Biol. 15: 5030-5042.
4. 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 (UBC3). Evidence for a non-covalent interaction between CDC34 and ubiquitin. J. Biol. Chem. 270: 9347-9352.
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7. Ma, X.J., Lu, Q. and Grunstein, M. 1996. A search for proteins that interact genetically with histone H3 and H4 amino termini uncovers novel regulators of the Swe1 kinase in *Saccharomyces cerevisiae*. Genes Dev. 10: 1327-1340.
8. Sia, R.A., Herald, H.A. and Lew, D.J. 1996. Cdc28 tyrosine phosphorylation and the morphogenesis checkpoint in budding yeast. Mol. Biol. Cell 7: 1657-1666.

SOURCE

Swe1 (y-311) is a rabbit polyclonal antibody raised against amino acids 1-311 mapping near the N-terminus of Swe1 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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

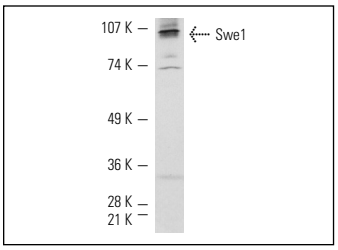
Swe1 (y-311) is recommended for detection of Swe1 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Swe1: 65/98 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

DATA



Swe1 (y-311): sc-7171. Western blot analysis of Swe1 expression in *S. cerevisiae* whole cell lysate.

SELECT PRODUCT CITATIONS

1. Matmati, N., Kitagaki, H., Montefusco, D., Mohanty, B.K. and Hannun, Y.A. 2009. Hydroxyurea sensitivity reveals a role for ISC1 in the regulation of G_2/M. J. Biol. Chem. 129: 8241-8246.
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3. Marquina, M., Queralt, E., Casamayor, A. and Ariño, J. 2012. Lack of the Glc7 phosphatase regulatory subunit Ypi1 activates the morphogenetic checkpoint. Int. J. Biochem. Cell Biol. 44: 1862-1871.

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.