SANTA CRUZ BIOTECHNOLOGY, INC.

Fks1 (yN-19): sc-15552

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cells sense and physiologically respond to environmental stress via signaling pathways. *Saccharomyces cerevisiae* cells respond to cell wall stress by transiently depolarizing the actin cytoskeleton. Cell wall stress also induces a transient depolarized distribution of the cell wall biosynthetic enzyme glucan synthase Fks1 and its regulatory subunit Rho1, possibly as a mechanism to repair general cell wall damage. The family of RHO genes are implicated in the control of morphogenetic events. Fks1 and Fks2 encode alternative catalytic subunits of the glucan synthases that are responsible for synthesis of β-1,3-glucan in the yeast cell wall. Expression of Fks1 predominates during growth under optimal conditions. In contrast, Fks2 expression is induced by mating pheromone, high extracellular Ca^{2+} growth on poor carbon sources.

REFERENCES

1. Mazur, P. and Baginsky, W. 1996. *In vitro* activity of 1,3-β-D-glucan synthase requires the GTP-binding protein Rho1. J. Biol. Chem. 271: 14604-14609.
2. Kelly, R., Register, E., Hsu, M.J., Kurtz, M. and Nielsen, J. 1996. Isolation of a gene involved in 1,3-β-glucan synthesis in *Aspergillus nidulans* and purification of the corresponding protein. J. Bacteriol. 178: 4381-4391
3. Zhao, C., Jung, U.S., Garrett-Engele, P., Roe, T., Cyert, M.S. and Levin, D.E. 1998. Temperature-induced expression of yeast FKS2 is under the dual control of protein kinase C and calcineurin. Mol. Cell. Biol. 18: 1013-1022.
4. Delley, P.A. and Hall, M.N. 1999. Cell wall stress depolarizes cell growth via hyperactivation of RHO1. J. Cell Biol. 147: 163-174.
5. Terashima, H., Yabuki, N., Arisawa, M., Hamada, K. and Kitada, K. 2000. Up-regulation of genes encoding glycosylphosphatidylinositol (GPI)-attached proteins in response to cell wall damage caused by disruption of FKS1 in *Saccharomyces cerevisiae*. Mol. Gen. Genet. 264: 64-74.

SOURCE

Fks1 (yN-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Fks1 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-15552 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

Fks1 (yN-19) is recommended for detection of Fks1 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. Zhong, Q., Li, G., Gvozdenovic-Jeremic, J. and Greenberg, M.L. 2007. Up-regulation of the cell integrity pathway in *Saccharomyces cerevisiae* suppresses temperature sensitivity of the pgs1Delta mutant. J. Biol. Chem. 282: 15946-15953.

PROTOCOLS

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