SANTA CRUZ BIOTECHNOLOGY, INC.

Fus1 (yC-16): sc-23748

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The STE11 gene, which encodes a transcription factor controlling expression of many genes involved in sexual differentiation, is also required for transcription of Fus1. The budding yeast gene FUS1, whose pattern of expression reveals interesting regulatory strategies and whose protein product is required for efficient cell fusion during mating, is a typical membrane protein that contains an SH3 domain. The FUS1 gene of *Saccharomyces cerevisiae* is transcribed in a and α cells, but not in a/α diploids, and its transcription increases dramatically when haploid cells are exposed to the appropriate mating pheromone. In addition, FUS1 transcription is absolutely dependent on STE4, STE5, STE7, STE11, and STE12, genes thought to encode components of the pheromone response pathway. The pheromone response element (PRE), which occurs in four copies within the FUS1 upstream region, functions as the FUS1 upstream activation sequence (UAS) and is responsible for all known aspects of FUS1 regulation. The Fus1 protein migrates on SDS/polyacrylamide gels with an apparent molecular mass of 80 kDa, although the mass is predicted to be 58 kDa from the gene coding capacity. This discrepancy results from the presence of O-linked mannose oligosaccharides attached to the clustered serines and threonines at the amino terminus of the protein.

REFERENCES

1. McCaffrey, G., Clay, F.J., Kelsay, K., and Sprague, G.F., Jr. 1987. Identification and regulation of a gene required for cell fusion during mating of the yeast *Saccharomyces cerevisiae*. Mol. Cell. Biol. 7: 2680-2690.
2. Trueheart, J., and Fink, G.R. 1989. The yeast cell fusion protein Fus1 is O-glycosylated and spans the plasma membrane. Proc. Natl. Acad. Sci. USA 86: 9916-9920.
3. Hagen, D.C., McCaffrey, G., and Sprague, G.F., Jr. 1991. Pheromone response elements are necessary and sufficient for basal and pheromone-induced transcription of the FUS1 gene of *Saccharomyces cerevisiae*. Mol. Cell. Biol. 11: 2952-2961.
4. Petersen, J., Weilguny, D., Egel, R., and Nielsen, O.1995. Characterization of fus1 of *Schizosaccharomyces pombe*: a developmentally controlled function needed for conjugation. Mol. Cell. Biol. 15: 3697-3707.
5. SWISS-PROT/TrEMBL (P11710). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

SOURCE

Fus1 (yC-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Fus1 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-23748 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Fus1 (yC-16) is recommended for detection of Fus1 of *Saccaromyces 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.

PROTOCOLS

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