SANTA CRUZ BIOTECHNOLOGY, INC.

Kss1 (y-50): sc-28547

BACKGROUND

MAP kinase cascades, consisting of a mitogen-activated protein kinase (also called ERK, for extracellular regulated kinase) and one or more upstream regulatory kinases (MAPKKs), play an integral role in signal transduction. The best characterized MAP kinase pathway to date is the yeast pheromone response pathway. Extracellular pheromones bind to the receptors Ste2 and Ste3 on the cell surface. Activation of these receptors eventually leads to stimulation of the MAPKKK Ste11. Upon phosphorylation, Ste11 activates the MAPKK Ste7, which in turn activates the MAP kinases Fus3 (also called Dac2) and Kss1. These MAP kinases activate the transcription factor Ste12, which upregulates mating-specific genes, and Far1, which arrests the cell cycle.

REFERENCES

1. Teague, M.A., et al. 1986. Nucleotide sequence of the yeast regulatory gene Ste7 predicts a protein homologous to protein kinases. Proc. Natl. Acad. Sci. USA 83: 7371-7375.
2. Courchesne, W.E., et al. 1989. A putative protein kinase overcomes pheromone-induced arrest of cell cycling in *S. cerevisiae*. Cell 58: 1107-1119.
3. Dolan, J.W., et al. 1989. The yeast Ste12 protein binds to the DNA sequence mediating pheromone induction. Proc. Natl. Acad. Sci. USA 86: 5703-5707.
4. Errede, B. and Ammerer, G. 1989. Ste12, a protein involved in cell-type-specific transcription and signal transduction in yeast, is part of protein-DNA complexes. Genes Dev. 3: 1349-1361.
5. Rhodes, N., et al. 1990. Ste11 is a protein kinase required for cell-type-specific transcription and signal transduction in yeast. Genes Dev. 4: 1862-1874.
6. Elion, E.A., et al. 1990. Fus3 encodes a $Cdc2^{+}$/Cdc28-related kinase required for the transition from mitosis into conjugation. Cell 60: 649-664.
7. Peter, M., et al. 1993. Far1 links the signal transduction pathway to the cell cycle machinery in yeast. Cell 73: 747-760.
8. Ferguson, B., et al. 1994. The yeast pheromone response pathway: new insights into signal transmission. Cell. Mol. Biol. Res. 40: 223-228.

SOURCE

Kss1 (y-50) is a rabbit polyclonal antibody raised against amino acids 261-310 mapping near the C-terminus of Kss1 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.

RESEARCH USE

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

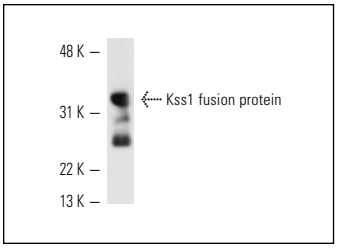
APPLICATIONS

Kss1 (y-50) is recommended for detection of Kss1 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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 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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Kss1 (y-50): sc-28547. Western blot analysis of yeast recombinant Kss1 fusion protein.

SELECT PRODUCT CITATIONS

1. Chapman, S.A. and Asthagiri, A.R. 2009. Quantitative effect of scaffold abundance on signal propagation. Mol. Syst. Biol. 5: 313.
2. de Llanos, R., et al. 2010. Differences in activation of MAP kinases and variability in the polyglutamine tract of Slt2 in clinical and non-clinical isolates of *Saccharomyces cerevisiae*. Yeast 27: 549-561.
3. Tanigawa, M., et al. 2012. Sphingolipids regulate the yeast high-osmolarity glycerol response pathway. Mol. Cell. Biol. 32: 2861-2870.
4. Lien, E.C., et al. 2013. Proper protein glycosylation promotes mitogen-activated protein kinase signal fidelity. Biochemistry 52: 115-124.

PROTOCOLS

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