SANTA CRUZ BIOTECHNOLOGY, INC.

Ste7 (B-12): sc-393269

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

SOURCE

Ste7 (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-24 at the N-terminus of Ste7 of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ste7 (B-12) is available conjugated to agarose (sc-393269 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393269 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393269 PE), fluorescein (sc-393269 FITC), Alexa Fluor® 488 (sc-393269 AF488), Alexa Fluor® 546 (sc-393269 AF546), Alexa Fluor® 594 (sc-393269 AF594) or Alexa Fluor® 647 (sc-393269 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393269 AF680) or Alexa Fluor® 790 (sc-393269 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393269 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Ste7 (B-12) is recommended for detection of Ste7 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:100, 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).

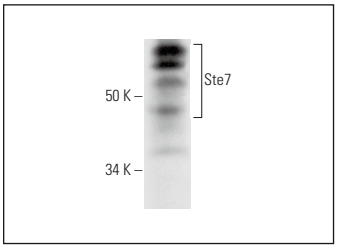
Molecular Weight of Ste7: 61 kDa.

Positive Controls: *Saccharomyces cerevisiae* whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Ste7 (B-12): sc-393269. Western blot analysis of Ste7 expression in *Saccharomyces cerevisiae* whole cell lysate.

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 for detailed protocols and support products.