

# Hog1 (y-118): sc-25757

## BACKGROUND

Yeast cells regulate their internal osmolarity in response to the environment via a MAP kinase cascade. MAP kinase cascades, which transmit extracellular signals to the cytoplasm or nucleus, comprise an essential branch of signal transduction. The core of these cascades consist of a MAP kinase (mitogen activated protein kinase, also called ERK, for extracellular-regulated protein kinase) as well as one or more up-stream regulatory kinases (MAPKKs or MEKs, for MAP/ERK kinase). High external osmolarity leads to the activation of the MAPKK Pbs2, which activates the MAP kinase Hog1. Hog1 (also called Ssk3) is thought to activate a transcription factor that upregulates the production of osmo-regulatory proteins.

## REFERENCES

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2. Brewster, J.L., de Valoir, T., Dwyer, N.D., Winter, E. and Gustin, M.C. 1993. An osmosensing signal transduction pathway in yeast. Science 259: 1760-1763.
3. Schüller, C., Brewster, J.L., Alexander, M.R., Gustin, M.C. and Ruis, H. 1994. The Hog pathway controls osmotic regulation of transcription via the stress response element (STRE) of the *Saccharomyces cerevisiae* CTT1 gene. Embo J. 13: 4382-4389.
4. Herskowitz, I. 1995. MAP kinase pathways in yeast: for mating and more. Cell 80: 187-197.
5. Maeda, T., Takekawa, M. and Saito, H. 1995. Activation of yeast Pbs2 MAPKK by MAPKKs or by binding of an SH3-containing osmosensor. Science 269: 554-558.
6. Posas, F., Wurgler-Murphy, S.M., Maeda, T., Witten, E.A., Thai, T.C. and Saito, H. 1996. Yeast Hog1 MAP kinase cascade is regulated by a multistep phosphorelay mechanism in the SLN1-YPD1-SSK1 "Two-Component" osmosensor. Cell 86: 865-875.

## SOURCE

Hog1 (y-118) is a rabbit polyclonal antibody raised against amino acids 291-408 of Hog1 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

Hog1 (y-118) is recommended for detection of Hog1 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 Hog1: 50 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).

## RESEARCH USE

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


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Try **Hog1 (D-3): sc-165978** or **Hog1 (F-9): sc-365609**, our highly recommended monoclonal alternatives to Hog1 (y-118).