

Hog1 (yC-20): sc-6815

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

1. Boguslawski, G. 1992. PBS2, a yeast gene encoding a putative protein kinase, interacts with the Ras2 pathway and affects osmotic sensitivity of *Saccharomyces cerevisiae*. *J. Gen. Microbiol.* 138: 2425-2432.
2. Brewster, J.L., et al. 1993. An osmosensing signal transduction pathway in yeast. *Science* 259: 1760-1763.
3. Schüller, C., et al. 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.

SOURCE

Hog1 (yC-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-6815 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Hog1 (yC-20) is recommended for detection of Hog1 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of Hog1: 50 kDa.

Positive Controls: Hog1 Antibody (yC-20): sc-6815 or *S. 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.

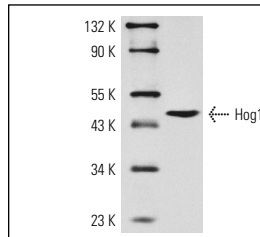
PROTOCOLS

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

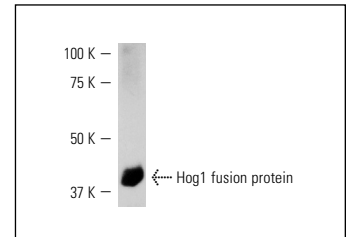
RESEARCH USE

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

DATA



Hog1 (yC-20): sc-6815. Western blot analysis of Hog1 expression in *S. cerevisiae* whole cell lysate.



Hog1 (yC-20): sc-6815. Western blot analysis of yeast recombinant Hog1 fusion protein.

SELECT PRODUCT CITATIONS

1. Yoon, S., et al. 2003. Yersinia effector YopJ inhibits yeast MAPK signaling pathways by an evolutionarily conserved mechanism. *J. Biol. Chem.* 278: 2131-2135.
2. Sato, N., et al. 2003. Phosphorelay-regulated degradation of the yeast Ssk1p response regulator by the ubiquitin-proteasome system. *Mol. Cell. Biol.* 23: 6662-6671.
3. Hermansyah, et al. 2010. Identification of protein kinase disruptions as suppressors of the calcium sensitivity of *S. cerevisiae* Deltaptp2 Deltamsg5 protein phosphatase double disruptant. *Arch. Microbiol.* 192: 157-165.
4. Cappell, S.D., et al. 2011. Selective regulation of MAP kinase signaling by an endomembrane phosphatidylinositol 4-kinase. *J. Biol. Chem.* 286: 14852-14860.
5. Hickman, M.J., et al. 2011. The Hog1 mitogen-activated protein kinase mediates a hypoxic response in *Saccharomyces cerevisiae*. *Genetics* 188: 325-338.
6. Solé, C., et al. 2011. Control of Ubp3 ubiquitin protease activity by the Hog1 SAPK modulates transcription upon osmotic stress. *EMBO J.* 30: 3274-3284.
7. Fettich, M., et al. 2011. Identification and characterization of putative osmosensors, HwSho1A and HwSho1B, from the extremely halotolerant black yeast *Hortaea werneckii*. *Fungal Genet. Biol.* 48: 475-484.
8. Schaber, J., et al. 2011. Automated ensemble modeling with modelMaGe: analyzing feedback mechanisms in the Sho1 branch of the HOG pathway. *PLoS ONE* 6: e14791.


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Try **Hog1 (D-3): sc-165978** or **Hog1 (F-9): sc-365609**, our highly recommended monoclonal alternatives to Hog1 (yC-20).