SANTA CRUZ BIOTECHNOLOGY, INC.

Hog1 (D-3): sc-165978

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 nucleuscomprise, 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.

SOURCE

Hog1 (D-3) is a mouse monoclonal antibody raised against amino acids 291-408 of Hog1 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.

Hog1 (D-3) is available conjugated to agarose (sc-165978 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-165978 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-165978 PE), fluorescein (sc-165978 FITC), Alexa Fluor® 488 (sc-165978 AF488), Alexa Fluor® 546 (sc-165978 AF546), Alexa Fluor® 594 (sc-165978 AF594) or Alexa Fluor® 647 (sc-165978 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-165978 AF680) or Alexa Fluor® 790 (sc-165978 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Hog1 (D-3) is recommended for detection of Hog1 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 Hog1: 50 kDa.

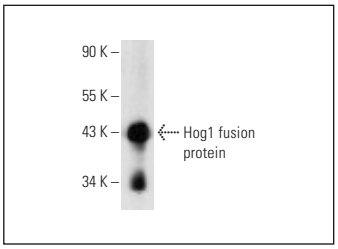
RECOMMENDED SUPPORT REAGENTS

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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Hog1 (D-3): sc-165978. Western blot analysis of yeast recombinant Hog1 fusion protein.

SELECT PRODUCT CITATIONS

1. Yurko, N., et al. 2017. MPK1/SLT2 links multiple stress responses with gene expression in budding yeast by phosphorylating Tyr1 of the RNAP II CTD. Mol. Cell 68: 913-925.
2. Liu, N.N., et al. 2018. Intersection of phosphate transport, oxidative stress and TOR signalling in *Candida albicans* virulence. PLoS Pathog. 14: e1007076.
3. Liu, Z., et al. 2019. A phosphorylated transcription factor regulates sterol biosynthesis in *Fusarium graminearum*. Nat. Commun. 10: 1228.
4. Guerra-Moreno, A., et al. 2019. Regulation of the unfolded protein response in yeast by oxidative stress. FEBS Lett. 593: 1080-1088.
5. Leech, C.M., et al. 2020. The coordinate actions of calcineurin and Hog1 mediate the stress response through multiple nodes of the cell cycle network. PLoS Genet. 16: e1008600.
6. Chen, H., et al. 2020. The Ccr4-Not complex regulates TORC1 signaling and mitochondrial metabolism by promoting vacuole V-ATPase activity. PLoS Genet. 16: e1009046.
7. Tripathi, A., et al. 2020. Iron alters the cell wall composition and intracellular lactate to affect *Candida albicans* susceptibility to antifungals and host immune response. J. Biol. Chem. 295: 10032-10044.
8. Xu, L., et al. 2020. System-wide characterization of subtilases reveals that subtilisin-like protease FgPrb1 of *Fusarium graminearum* regulates fungal development and virulence. Fungal Genet. Biol. 144: 103449.
9. Huang, S., et al. 2020. Activation of a mitogen-activated protein kinase Hog1 by DNA damaging agent methyl methanesulfonate in yeast. Front. Mol. Biosci. 7: 581095.
10. Shi, D., et al. 2021. S-adenosyl-L-homocysteine hydrolase FgSah1 is required for fungal development and virulence in *Fusarium graminearum*. Virulence 12: 2171-2185.

RESEARCH USE

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