

Mpk1 (γ-244): sc-20168

BACKGROUND

Yeasts maintain the integrity of their cell walls via a MAP kinase cascade. This cascade consists of a MAP kinase (mitogen-activated protein kinase, also called ERK, for extracellular regulated kinase) as well as several upstream regulatory kinases (MAPKKs or MEKs, for MAP/ERK kinase). Pkc1 (also designated Sst1), a yeast homolog of the mammalian PKC α , β and γ isoforms, transmits extracellular signals to Bck1, a MAPKKK (also called Slk1, Ssp31 or Las3). Bck1 then activates two MAPKKs, Mkk1 and Mkk2 (also referred to as Ssp32 and Ssp33, respectively). These in turn activate the MAP kinase Mpk1 (also called Slt2). Mutants lacking any component of this cascade exhibit a defect in cell lysis resulting from deficient cell wall synthesis. Bck2 (also designated Ctr7) has been identified as a suppressor of Pkc1 and Mpk1 deletions.

REFERENCES

1. Lee, K.S., et al. 1993. A yeast mitogen-activated protein kinase homolog (Mpk1p) mediates signalling by protein kinase C. *Mol. Cell. Biol.* 13: 3067-3075.
2. Irie, K., et al. 1993. MKK1 and MKK2, which encode *Saccharomyces cerevisiae* mitogen-activated protein kinase-kinase homologs, function in the pathway mediated by protein kinase C. *Mol. Cell. Biol.* 13: 3076-3083.
3. Wu, J., et al. 1993. Identification and characterization of a new mammalian mitogen-activated protein kinase kinase, MKK2. *Mol. Cell. Biol.* 13: 4539-4548.
4. Lee, K.S., et al. 1993. A pair of functionally redundant yeast genes (PPZ1 and PPZ2) encoding type 1-related protein phosphatases function within the PKC1-mediated pathway. *Mol. Cell. Biol.* 13: 5843-5853.
5. Levin, D.E., et al. 1994. Dissecting the protein kinase c/map kinase signalling pathway of *Saccharomyces cerevisiae*. *Cell. Mol. Biol. Res.* 40: 229-239.
6. Watanabe, M., et al. 1994. *Saccharomyces cerevisiae* PKC1 encodes a protein kinase C (PKC) homolog with a substrate specificity similar to that of mammalian PKC. *J. Biol. Chem.* 269: 16829-16836.

SOURCE

Mpk1 (γ-244) is a rabbit polyclonal antibody raised against amino acids 241-484 of Mpk1 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.

APPLICATIONS

Mpk1 (γ-244) is recommended for detection of Mpk1 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).

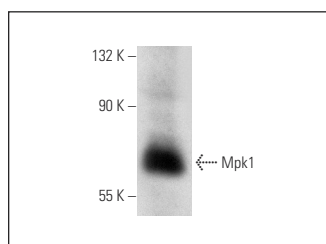
Molecular Weight of Mpk1: 60 kDa.

Positive Controls: *Saccharomyces cerevisiae* whole cell lysate.

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).

DATA



Mpk1 (γ-244): sc-20168. Western blot analysis of Mpk1 expression in *Saccharomyces cerevisiae* whole cell lysate.

SELECT PRODUCT CITATIONS

1. van Voorst, F., et al. 2006. Genome-wide identification of genes required for growth of *Saccharomyces cerevisiae* under ethanol stress. *Yeast* 23: 351-359.
2. Frydlová, I., et al. 2009. Deregulation of DSE1 gene expression results in aberrant budding within the birth scar and cell wall integrity pathway activation in *Saccharomyces cerevisiae*. *Eukaryot. Cell* 8: 586-594.
3. Mollapour, M., et al. 2009. Presence of the Fps1p aquaglyceroporin channel is essential for Hog1p activation, but suppresses Slt2(Mpk1)p activation, with acetic acid stress of yeast. *Microbiology* 155: 3304-3311.
4. Meitinger, F., et al. 2013. A safeguard mechanism regulates Rho GTPases to coordinate cytokinesis with the establishment of cell polarity. *PLoS Biol.* 11: e1001495.

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.



Try **Mpk1 (D-1): sc-374434** or **Mpk1 (E-8): sc-374440**, our highly recommended monoclonal alternatives to Mpk1 (γ-244).