

Mpk1 (D-1): sc-374434



The Power to Question

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

- 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.
- Wu, J., et al. 1993. Identification and characterization of a new mammalian mitogen-activated protein kinase kinase, MKK2. *Mol. Cell. Biol.* 13: 4539-4548.

SOURCE

Mpk1 (D-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 453-491 near the C-terminus of Mpk1 of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mpk1 (D-1) is available conjugated to agarose (sc-374434 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374434 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374434 PE), fluorescein (sc-374434 FITC), Alexa Fluor[®] 488 (sc-374434 AF488), Alexa Fluor[®] 546 (sc-374434 AF546), Alexa Fluor[®] 594 (sc-374434 AF594) or Alexa Fluor[®] 647 (sc-374434 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374434 AF680) or Alexa Fluor[®] 790 (sc-374434 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374434 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

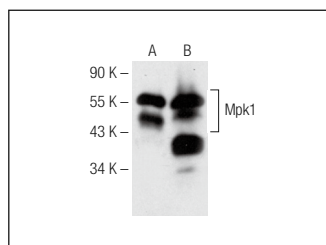
Mpk1 (D-1) is recommended for detection of Mpk1 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Mpk1: 60 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



Mpk1 (D-1): sc-374434. Western blot analysis of yeast recombinant Mpk1 fusion protein (A) and expression in *S. cerevisiae* whole cell lysate (B).

SELECT PRODUCT CITATIONS

- Wang, Y.H., et al. 2022. Golgin Imh1 and GARP complex cooperate to restore the impaired SNARE recycling transport induced by ER stress. *Cell Rep.* 38: 110488.
- Williams, T.D., et al. 2022. Actin remodelling controls proteasome homeostasis upon stress. *Nat. Cell Biol.* 24: 1077-1087.
- Luo, G., et al. 2022. Enhancement of HSA-pFSH β production by disrupting YPS1 and supplementing N-acetyl-L-cysteine in *Pichia pastoris*. *Front. Microbiol.* 13: 998647.
- Agrotis, A., et al. 2023. Multiple phosphorylation of the Cdc48/p97 cofactor protein Shp1/p47 occurs upon cell stress in budding yeast. *Life Sci. Alliance* 6: e202201642.
- Ahmadpour, D., et al. 2023. Syntaxin 5-dependent phosphorylation of the small heat shock protein Hsp42 and its role in protein quality control. *FEBS J.* 290: 4744-4761.

STORAGE

Store at 4 $^{\circ}$ 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.

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