

SAPK4 (E-7): sc-46678

BACKGROUND

Lipopolysaccharide has been shown to induce tyrosine phosphorylation of a unique protein, designated p38. p38 is a member of the MAP kinase family with features most closely resembling those of the *Saccharomyces cerevisiae* protein Hog1. p38 and Hog1 share a TGY phosphorylation sequence, whereas most other MAP kinase family proteins have a TEY sequence. A related protein, p38 β , has been shown to phosphorylate ATF-2 at a 20-fold higher rate than p38, suggesting distinct substrate preferences. Stress activated protein kinase-4, or SAPK4, also designated p38 δ , is a related protein that is phosphorylated by MKK6 in response to cytokines and cellular stresses.

REFERENCES

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2. Han, J., et al. 1993. Endotoxin induces rapid protein tyrosine phosphorylation in 70Z/3 cells expressing CD14. *J. Biol. Chem.* 268: 25009-25014.
3. Nishida, E., et al. 1993. The MAP kinase cascade is essential for diverse signal transduction pathways. *Trends Biochem. Sci.* 18: 128-131.
4. Han, J., et al. 1994. A MAP kinase targeted by endotoxin and hyperosmolarity in mammalian cells. *Science* 265: 808-811.
5. Jiang, Y., et al. 1996. Characterization of the structure and function of a new mitogen-activated protein kinase (p38 β). *J. Biol. Chem.* 271: 17920-17926.
6. Goedert, M., et al. 1997. Activation of the novel stress-activated protein kinase SAPK4 by cytokines and cellular stresses is mediated by SKK3 (MKK6); comparison of its substrate specificity with that of other SAP kinases. *EMBO J.* 16: 3563-3571.

CHROMOSOMAL LOCATION

Genetic locus: MAPK13 (human) mapping to 6p21.31; Mapk13 (mouse) mapping to 17 A3.3.

SOURCE

SAPK4 (E-7) is a mouse monoclonal antibody raised against amino acids 306-365 of SAPK4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SAPK4 (E-7) is available conjugated to agarose (sc-46678 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-46678 PE), fluorescein (sc-46678 FITC), Alexa Fluor $^{\text{®}}$ 488 (sc-46678 AF488), Alexa Fluor $^{\text{®}}$ 546 (sc-46678 AF546), Alexa Fluor $^{\text{®}}$ 594 (sc-46678 AF594) or Alexa Fluor $^{\text{®}}$ 647 (sc-46678 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor $^{\text{®}}$ 680 (sc-46678 AF680) or Alexa Fluor $^{\text{®}}$ 790 (sc-46678 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

SAPK4 (E-7) is recommended for detection of SAPK4 of mouse, rat and human 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).

Suitable for use as control antibody for SAPK4 siRNA (h): sc-36456, SAPK4 siRNA (m): sc-36457, SAPK4 shRNA Plasmid (h): sc-36456-SH, SAPK4 shRNA Plasmid (m): sc-36457-SH, SAPK4 shRNA (h) Lentiviral Particles: sc-36456-V and SAPK4 shRNA (m) Lentiviral Particles: sc-36457-V.

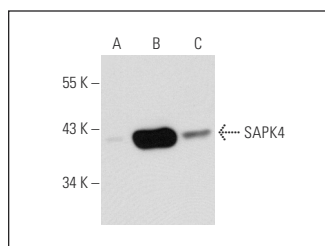
Molecular Weight of SAPK4 isoforms: 38/40/42 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, SAPK4 (m): 293T Lysate: sc-123351 or SAPK4 (h2): 293T Lysate: sc-173544.

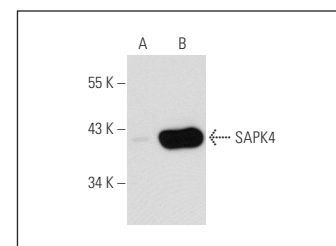
RECOMMENDED SUPPORT REAGENTS

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 $^{\text{TM}}$ Molecular Weight Standards: sc-2035, UltraCruz $^{\text{®}}$ 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 $^{\text{®}}$ Mounting Medium: sc-24941 or UltraCruz $^{\text{®}}$ Hard-set Mounting Medium: sc-359850.

DATA



SAPK4 (E-7): sc-46678. Western blot analysis of SAPK4 expression in non-transfected 293T: sc-117752 (A), mouse SAPK4 transfected 293T: sc-123351 (B) and A-431 (C) whole cell lysates.



SAPK4 (E-7): sc-46678. Western blot analysis of SAPK4 expression in non-transfected: sc-117752 (A) and mouse SAPK4 transfected: sc-123351 (B) 293T whole cell lysates.

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.

PROTOCOLS

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