

SAPK4 (D-2): sc-376437

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

1. Han, J., et al. 1993. Endotoxin induces rapid protein tyrosine phosphorylation in 70Z/3 cells expressing CD14. *J. Biol. Chem.* 268: 25009-25014.
2. Brewster, J.L., et al. 1993. An osmosensing signal transduction pathway in yeast. *Science* 259: 1760-1763.
3. Nishida, E. and Gotoh, Y. 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.
7. Kumar, S., et al. 1997. Novel homologs of CSBP/p38 MAP kinase: activation, substrate specificity and sensitivity to inhibition by pyridinyl imidazoles. *Biochem. Biophys. Res. Commun.* 235: 533-538.
8. Wang, X.S., et al. 1997. Molecular cloning and characterization of a novel p38 mitogen activated protein kinase. *J. Biol. Chem.* 272: 23668-23674.

CHROMOSOMAL LOCATION

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

SOURCE

SAPK4 (D-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 353-362 at the C-terminus of SAPK4 of human 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.

Blocking peptide available for competition studies, sc-376437 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SAPK4 (D-2) 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.

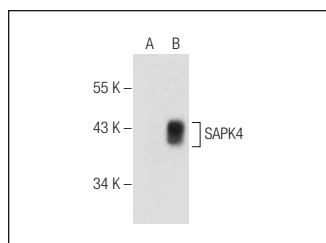
Molecular Weight of SAPK4 isoforms: 38/40/42 kDa.

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

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 MarkerTM 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



SAPK4 (D-2): sc-376437. 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° 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.