

SAPK4 (20): sc-136063

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., 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.
7. Kumar, S., et al. 1997. Novel homologues of CSBP/p38 MAP kinase: activation, substrate specificity and sensitivity to inhibition by pyridinyl imidazoles. *Biochem. Biophys. Res. Commun.* 235: 533-538.

CHROMOSOMAL LOCATION

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

SOURCE

SAPK4 (20) is a mouse monoclonal antibody raised against amino acids 224-345 of SAPK4 of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

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. Not for resale.

APPLICATIONS

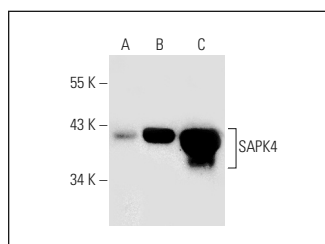
SAPK4 (20) is recommended for detection of SAPK4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

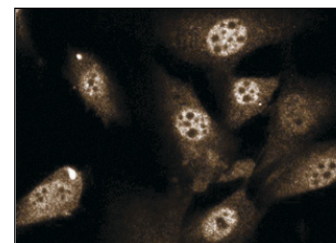
Molecular Weight of SAPK4 isoforms: 38/40/42 kDa.

Positive Controls: SAPK4 (h): 293 Lysate: sc-173414 or A-431 whole cell lysate: sc-2201.

DATA



SAPK4 (20): sc-136063. Western blot analysis of SAPK4 expression in non-transfected 293: sc-110760 (A), human SAPK4 transfected 293: sc-173414 (B) and A-431 (C) whole cell lysates.



SAPK4 (20): sc-136063. Immunofluorescence staining of 3T3-L1 cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Frank, S.B., et al. 2017. A streamlined method for the design and cloning of shRNAs into an optimized Dox-inducible lentiviral vector. *BMC Biotechnol.* 17: 24.

PROTOCOLS

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