

SAPK4 (GST-D1): sc-33691

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.
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.
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.

SOURCE

SAPK4 (GST-D1) is a mouse monoclonal antibody raised against recombinant p38 of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SAPK4 (GST-D1) is recommended for detection of SAPK4 (p38 δ) of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)]; may cross-react with p38 α , p38 β and p38 γ .

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

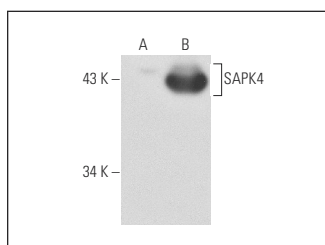
Molecular Weight of SAPK4 isoforms: 38/40/42 kDa.

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

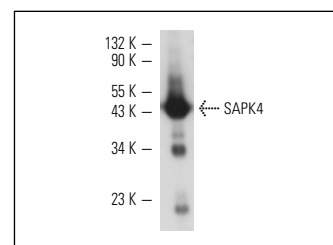
RECOMMENDED SUPPORT REAGENTS

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™ 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



SAPK4 (GST-D1): sc-33691. Western blot analysis of SAPK4 expression in non-transfected: sc-117752 (A) and human SAPK4 transfected: sc-173544 (B) 293T whole cell lysates.



SAPK4 (GST-D1): sc-33691. Western blot analysis of human recombinant SAPK4.

RESEARCH USE

For research use only, not for use in diagnostic procedures.