

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.

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.

STORAGE

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

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.

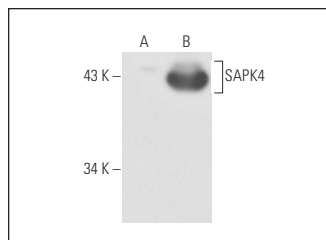
Molecular Weight of SAPK4 isoforms: 38/40/42 kDa.

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

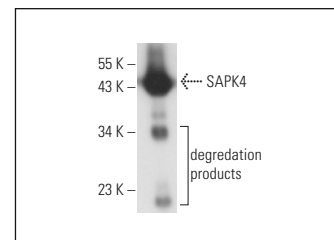
RECOMMENDED SUPPORT REAGENTS

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, 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).

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.

PROTOCOLS

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