SANTA CRUZ BIOTECHNOLOGY, INC.

SAPK4 (C-19): sc-7585

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, p38β, 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 p38δ, is a related protein that is phosphorylated by MKK6 in response to cytokines and cellular stresses.

REFERENCES

1. Brewster, J.L., et al. 1993. An osmosensing signal transduction pathway in yeast. Science 259: 1760-1763.
2. Han, J., et al. 1993. Endotoxin induces rapid protein tyrosine phosphorylation in 70Z/3 cells expressing CD14. J. Biol. Chem. 268: 25009-25014.

CHROMOSOMAL LOCATION

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

SOURCE

SAPK4 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SAPK4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7585 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SAPK4 (C-19) 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 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SAPK4 (C-19) is also recommended for detection of SAPK4 in additional species, including canine, bovine and porcine.

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.

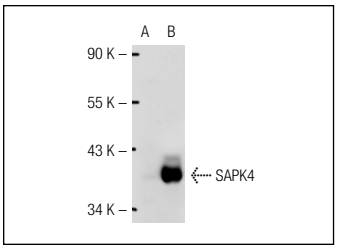
Molecular Weight of SAPK4 isoforms: 38/40/42 kDa.

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

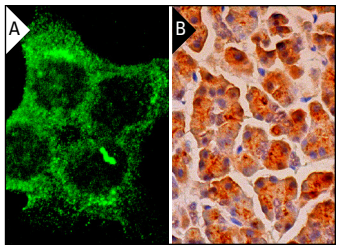
STORAGE

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

DATA



SAPK4 (C-19): sc-7585. Western blot analysis of SAPK4 expression in non-transfected: sc-117752 (**A**) and mouse SAPK4 transfected: sc-123351 (**B**) 293T whole cell lysates.



SAPK4 (C-19): sc-7585. Immunofluorescence staining of methanol-fixed A-431 cells showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Dashti, S., et al. 2001. MEK6 Regulates human involucrin gene expression via a p38α- and p38δ-dependent mechanism. J. Biol. Chem. 276: 27214-27220.
2. Balasubramanian, S., et al. 2002. Green tea polyphenol stimulates a Ras, MEKK1, MEK3, and p38 cascade to increase activator protein 1 factor-dependent involucrin gene expression in normal human keratinocytes. J. Biol. Chem. 277: 1828-1836.
3. Waetzig, G.H., et al. 2002. p38 mitogen-activated protein kinase is activated and linked to TNFα signaling in inflammatory bowel disease. J. Immunol. 168: 5342-5351.
4. Feifel, E., et al. 2002. p38 MAPK mediates acid-induced transcription of PEPCK in LLC-PK_1-FBPase$^+$ cells. Am. J. Physiol. Renal Physiol. 283: F678-F688.
5. Losa, J.H., et al. 2003. Role of the p38 MAPK pathway in cisplatin-based therapy. Oncogene 22: 3998-4006.
6. Efimova, T., et al. 2003. A regulatory role for p38δ MAPK in keratinocyte differentiation. Evidence for p38δ-ERK 1/2 complex formation. J. Biol. Chem. 278: 34277-34285.
7. Efimova, T., et al. 2004. Protein kinase Cδ regulates keratinocyte death and survival by regulating activity and subcellular localization of a p38δ-extracellular signal-regulated kinase 1/2 complex. Mol. Cell. Biol. 24: 8167-883.
8. Rauch, C., et al. 2005. Static stretch promotes MEF2A nuclear translocation and expression of neonatal myosin heavy chain in C2C12 myocytes in a calcineurin- and p38-dependent manner. Am. J. Physiol., Cell Physiol. 288: C593-C605.

RESEARCH USE

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