

JNK1 (G-4): sc-398989

BACKGROUND

c-Jun N-terminal kinases (JNKs) phosphorylate and augment transcriptional activity of c-Jun. JNKs originate from three genes that yield ten isoforms through alternative mRNA splicing, including JNK1 α 1, JNK1 β 1, JNK2 α 1, JNK2 β 1 and JNK3 α 1, which represent the p46 isoforms, and JNK1 α 2, JNK1 β 2, JNK2 α 2, JNK2 β 2 and JNK3 β 2, which represent the p54 isoforms. JNKs coordinate cell responses to stress and influence regulation of cell growth and transformation. The human JNK1 (PRKM8, SAPK1, MAPK8) gene maps to chromosome 10q11.22 and shares 83% amino acid identity with JNK2. JNK1 is necessary for normal activation and differentiation of CD4 helper T (TH) cells into TH1 and TH2 effector cells. Capsaicin activates JNK1 and p38 in Ras-transformed human breast epithelial cells. Nitrogen oxides (NO_x) upregulate JNK1 in addition to c-Fos, c-Jun and other signaling kinases, including MEK1 and p38.

REFERENCES

1. Kallunki, T., et al. 1994. JNK2 contains a specificity-determining region responsible for efficient c-Jun binding and phosphorylation. *Genes Dev.* 8: 2996-3007.
2. Dong, C., et al. 1998. Defective T cell differentiation in the absence of JNK1. *Science* 282: 2092-2095.
3. Potapova, O., et al. 2000. Inhibition of c-Jun N-terminal kinase 2 expression suppresses growth and induces apoptosis of human tumor cells in a p53-dependent manner. *Mol. Cell. Biol.* 20: 1713-1722.
4. Dong, C., et al. 2000. JNK is required for effector T cell function but not for T cell activation. *Nature* 405: 91-94.
5. Dreskin, S.C., et al. 2001. Isoforms of Jun kinase are differentially expressed and activated in human monocyte/macrophage (THP-1) cells. *J. Immunol.* 166: 5646-5653.
6. Han, S.Y., et al. 2002. Differential gene regulation by specific gain-of-function JNK1 proteins expressed in Swiss 3T3 fibroblasts. *J. Biol. Chem.* 277: 47167-47174.

CHROMOSOMAL LOCATION

Genetic locus: MAPK8 (human) mapping to 10q11.22; Mapk8 (mouse) mapping to 14 B.

SOURCE

JNK1 (G-4) is a mouse monoclonal antibody raised against amino acids 358-397 mapping near the C-terminus of JNK1 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.

STORAGE

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

APPLICATIONS

JNK1 (G-4) is recommended for detection of JNK1 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 JNK1 siRNA (h): sc-29380, JNK1 siRNA (m): sc-29381, JNK1 siRNA (r): sc-156089, JNK1 shRNA Plasmid (h): sc-29380-SH, JNK1 shRNA Plasmid (m): sc-29381-SH, JNK1 shRNA Plasmid (r): sc-156089-SH, JNK1 shRNA (h) Lentiviral Particles: sc-29380-V, JNK1 shRNA (m) Lentiviral Particles: sc-29381-V and JNK1 shRNA (r) Lentiviral Particles: sc-156089-V.

Molecular Weight of p46 isoform: 46 kDa.

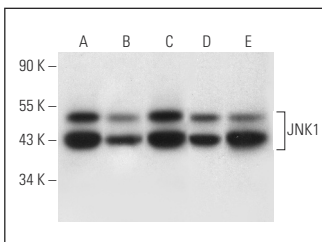
Molecular Weight of p54 isoform: 54 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

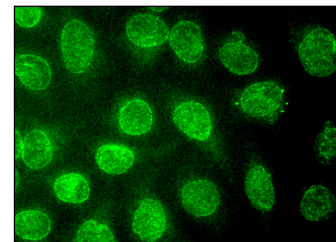
RECOMMENDED SUPPORT REAGENTS

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). 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



JNK1 (G-4): sc-398989. Western blot analysis of JNK1 expression in HeLa (A), A-431 (B), SK-N-MC (C), Jurkat (D) and PC-12 (E) whole cell lysates.



JNK1 (G-4): sc-398989. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

RESEARCH USE

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



See **JNK (D-2): sc-7345** for JNK antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.