SANTA CRUZ BIOTECHNOLOGY, INC.

JNK1 (F-3): sc-1648

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 JNK1α1,JNK1β1, JNK2α1, JNK2β1, and JNK3α1, which represent the p46 isoforms, and JNK1α2, JNK1β2, JNK2α2, JNK2β2, and JNK3β2, 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 MEKK1 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.
4. Dong, C., et al. 2000. JNK is required for effector T-cell function but not for T-cell activation. Nature 405: 91-94.

CHROMOSOMAL LOCATION

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

SOURCE

JNK1 (F-3) is a mouse monoclonal antibody raised against amino acids 1-384 representing full length JNK1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

JNK1 (F-3) is available conjugated to agarose (sc-1648 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either fluorescein (sc-1648 FITC), Alexa Fluor® 488 (sc-1648 AF488), Alexa Fluor® 546 (sc-1648 AF546), Alexa Fluor® 594 (sc-1648 AF594) or Alexa Fluor® 647 (sc-1648 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-1648 AF680) or Alexa Fluor® 790 (sc-1648 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, JNK1 (F-3) is available conjugated to TRITC (sc-1648 TRITC, 200 µg/ml), for IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

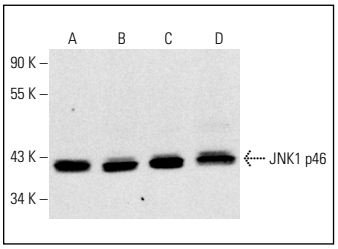
JNK1 (F-3) is recommended for detection of all JNK1 p46 and p54 isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

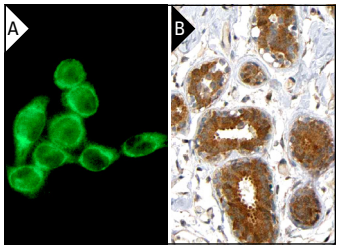
Molecular Weight of JNK1 p46/p54 isoforms: 46/54 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, RAW 264.7 whole cell lysate: sc-2211 or A-431 whole cell lysate: sc-2201.

DATA



JNK1 (F-3): sc-1648. Western blot analysis of JNK1 p46 expression in HeLa (**A**), RAW 264.7 (**B**), A-431 (**C**) and Jurkat (**D**) whole cell lysates.



JNK1 (F-3) Alexa Fluor® 488: sc-1648 AF488. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). JNK1 (F-3): sc-1648. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Liu, J.L., et al. 1997. The constitutively active mutant $G_{\alpha\ 13}$ transforms mouse fibroblast cells deficient in Insulin-like growth factor-I receptor. J. Biol. Chem. 272: 29438-29441.
2. Ding, Z., et al. 2020. NLRP3 inflammasome via IL-1β regulates PCSK9 secretion. Theranostics 10: 7100-7110.
3. Liu, G., et al. 2021. GRP78 determines glioblastoma sensitivity to UBA1 inhibition-induced UPR signaling and cell death. Cell Death Dis. 12: 733.
4. Choudhury, D., et al. 2022. Inhibition of glutaminolysis restores mitochondrial function in senescent stem cells. Cell Rep. 41: 111744.
5. Wang, X., et al. 2023. Hematopoietic cytoplasmic adaptor protein Hem1 promotes osteoclast fusion and bone resorption in mice. J. Biol. Chem. 299: 102841.

RESEARCH USE

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