SANTA CRUZ BIOTECHNOLOGY, INC.

JNK1 (88.20): sc-136533

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.
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.
7. Chou, F.P., et al. 2002. Induced proliferation of human MRC-5 cells by nitrogen oxides via direct and indirect activation of MEKK1, JNK, and p38 signals. Toxicol. Appl. Pharmacol. 181: 203-208.
8. Kang, H.J., et al. 2003. Roles of JNK1 and p38 in selective induction of apoptosis by Capsaicin in Ras-transformed human breast epithelial cells. Int. J. Cancer 103: 475-482.
9. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 601158. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: MAPK8 (human) mapping to 10q11.22.

SOURCE

JNK1 (88.20) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to a short amino acid sequence containing Thr 183 and Tyr 185 phosphorylated JNK1 of human origin.

PRODUCT

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

APPLICATIONS

JNK1 (88.20) is recommended for detection of JNK1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) 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 shRNA Plasmid (h): sc-29380-SH and JNK1 shRNA (h) Lentiviral Particles: sc-29380-V.

Molecular Weight of JNK1 p46 isoform: 46 kDa.

Molecular Weight of JNK1 p54 isoform: 54 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

SELECT PRODUCT CITATIONS

1. Stremmel, W., et al. 2014. Plasma membrane phospholipase A_2 controls hepatocellular fatty acid uptake and is responsive to pharmacological modulation: implications for nonalcoholic steatohepatitis. FASEB J. 28: 3159-3170.
2. Stremmel, W., et al. 2017. The overall fatty acid absorption controlled by basolateral chylomicron excretion under regulation of p-JNK1. Biochim. Biophys. Acta 1862: 917-928.

STORAGE

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

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.

CONJUGATES

See **JNK (D-2): sc-7345** for JNK1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.