

JNK1/3 (D-12): sc-46007

BACKGROUND

c-Jun N-terminal kinases (JNKs) phosphorylate and augment transcriptional activity of c-Jun. JNKs originate from three genes that yield 10 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 MEKK1 and p38. JNK3 (MK10, MAPK10, PRKM10) is activated by pro-inflammatory cytokines and environmental stresses by phosphorylating transcription factors such as c-Jun and ATF2. This is important for AP-1 transcriptional activity regulation. JNK3 is crucial for neuronal apoptosis (stress-induced).

REFERENCES

1. Gupta, S., et al. 1996. Selective interaction of JNK protein kinase isoforms with transcription factors. *EMBO J.* 15: 2760-2770.
2. Dong, C., et al. 1998. Defective T cell differentiation in the absence of JNK1. *Science* 282: 2092-2095.
3. Xie, X., et al. 1998. Crystal structure of JNK3: a kinase implicated in neuronal apoptosis. *Structure* 6: 983-9891.
4. 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.
5. Dong, C., et al. 2000. JNK is required for effector T cell function but not for T cell activation. *Nature* 405: 91-94.
6. Lisnock, J., et al. 2000. Activation of JNK3 α 1 requires both MKK4 and MKK7: kinetic characterization of *in vitro* phosphorylated JNK3 α 1. *Biochemistry* 39: 3141-3148.

CHROMOSOMAL LOCATION

Genetic locus: MAPK8 (human) mapping to 10q11.22, MAPK10 (human) mapping to 4q21.3; Mapk8 (mouse) mapping to 14 B, Mapk10 (mouse) mapping to 5 E5.

SOURCE

JNK1/3 (D-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of JNK1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-46007 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

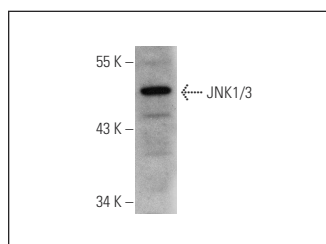
JNK1/3 (D-12) is recommended for detection of all JNK1 and JNK3 p46 and p54 isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

JNK1/3 (D-12) is also recommended for detection of all JNK1 and JNK3 p46 and p54 isoforms in additional species, including equine, canine, bovine, porcine and avian.

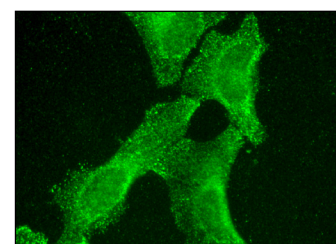
Molecular Weight of JNK1/3 isoforms: 46/54 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, NIH/3T3 whole cell lysate: sc-2210 or A-431 whole cell lysate: sc-2201.

DATA



JNK1/3 (D-12): sc-46007. Western blot analysis of JNK1/3 expression in RAW 264.7 whole cell lysate.



JNK1/3 (D-12): sc-46007. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic and nuclear localization.

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 or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **JNK1/3 (F-5): sc-514539** or **JNK (D-2): sc-7345**, our highly recommended monoclonal alternatives to JNK1/3 (D-12).