

JNK3 (N-16): sc-46015

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

- Gupta, S., et al. 1996. Selective interaction of JNK protein kinase isoforms with transcription factors. *EMBO J.* 15: 2760-2670.
- Dong, C., et al. 1998. Defective T cell differentiation in the absence of JNK1. *Science* 282: 2092-2095.
- Xie, X., et al. 1998. Crystal structure of JNK3: a kinase implicated in neuronal apoptosis. *Structure* 6: 983-991.
- 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.
- 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.
- Dong, C., et al. 2000. JNK is required for effector T-cell function but not for T-cell activation. *Nature* 405: 91-94.
- 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.
- 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: MAPK10 (human) mapping to 4q21.3; Mapk10 (mouse) mapping to 5 E5.

SOURCE

JNK3 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of JNK3 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-46015 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

JNK3 (N-16) is recommended for detection of all JNK3 p46 and p54 isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

JNK3 (N-16) is also recommended for detection of all JNK3 p46 and p54 isoforms in additional species, including equine, canine and porcine.

Suitable for use as control antibody for JNK3 siRNA (h): sc-39103, JNK3 siRNA (m): sc-39104, JNK3 shRNA Plasmid (h): sc-39103-SH, JNK3 shRNA Plasmid (m): sc-39104-SH, JNK3 shRNA (h) Lentiviral Particles: sc-39103-V and JNK3 shRNA (m) Lentiviral Particles: sc-39104-V.

Molecular Weight of JNK3 p46 isoform: 46 kDa.

Molecular Weight of JNK3 p54 isoform: 54 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.


 MONOS
 Satisfaction
 Guaranteed

Try **JNK3 (10E4A4): sc-130075**, our highly recommended monoclonal alternative to JNK3 (N-16).