

JNK3 (10E4A4): sc-130075

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 (NOx) 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 ATF-2. 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: 2760-2770.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: MAPK10 (human) mapping to 4q21.3; Mapk10 (mouse) mapping to 5 E5.

SOURCE

JNK3 (10E4A4) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 28-233 of JNK3 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.

JNK3 (10E4A4) is available conjugated to agarose (sc-130075 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130075 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130075 PE), fluorescein (sc-130075 FITC), Alexa Fluor[®] 488 (sc-130075 AF488), Alexa Fluor[®] 546 (sc-130075 AF546), Alexa Fluor[®] 594 (sc-130075 AF594) or Alexa Fluor[®] 647 (sc-130075 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-130075 AF680) or Alexa Fluor[®] 790 (sc-130075 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

JNK3 (10E4A4) is recommended for detection of JNK3 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).

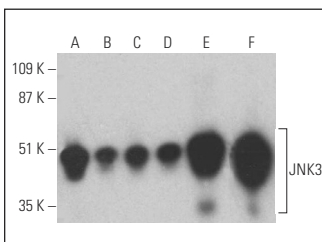
Suitable for use as control antibody for JNK3 siRNA (h): sc-39103, JNK3 siRNA (m): sc-39104, JNK3 shRNA Plasmid (h): sc-39103-SH, JNK3 shRNA Plasmid (m): sc-39104-SH, JNK3 shRNA (h) Lentiviral Particles: sc-39103-V and JNK3 shRNA (m) Lentiviral Particles: sc-39104-V.

Molecular Weight of JNK3 p46 isoform: 46 kDa.

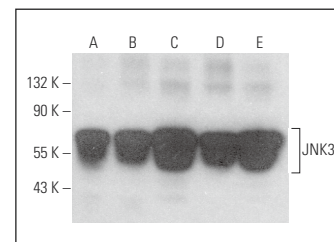
Molecular Weight of JNK3 p54 isoform: 54 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SK-N-SH cell lysate: sc-2410 or K-562 whole cell lysate: sc-2203.

DATA



JNK3 (10E4A4) HRP: sc-130075 HRP. Direct western blot analysis of JNK3 expression in HeLa (A), SK-N-MC (B), A-431 (C), Jurkat (D), K-562 (E) and SK-N-SH (F) whole cell lysates.



JNK3 (10E4A4): sc-130075. Western blot analysis of JNK3 expression in HeLa (A), A-431 (B), Jurkat (C), SK-N-MC (D) and K-562 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

- Nitta, R.T., et al. 2010. Measuring the constitutive activation of c-Jun N-terminal kinase isoforms. *Methods Enzymol.* 484: 531-548.
- Liu, X., et al. 2020. Multiple protein and mRNA expression correlations in the rat cerebral cortex after ischemic injury and repair due to buchang naoxintong jiaonang (BNJ) intervention. *Biomed. Pharmacother.* 125: 109917.
- Ahmed, M.R., et al. 2024. Arrestin-3-assisted activation of JNK3 mediates dopaminergic behavioral sensitization. *Cell Rep. Med.* 5: 101623.

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.