

# JNK1 (F-3): sc-1648



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 JNK1 $\alpha$ 1, JNK1 $\beta$ 1, JNK2 $\alpha$ 1, JNK2 $\beta$ 1 and JNK3 $\alpha$ 1, which represent the p46 isoforms, and JNK1 $\alpha$ 2, JNK1 $\beta$ 2, JNK2 $\alpha$ 2, JNK2 $\beta$ 2, and JNK3 $\beta$ 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<sub>x</sub>) 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  $\mu$ g IgG<sub>1</sub> 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  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to either fluorescein (sc-1648 FITC), Alexa Fluor<sup>®</sup> 488 (sc-1648 AF488), Alexa Fluor<sup>®</sup> 546 (sc-1648 AF546), Alexa Fluor<sup>®</sup> 594 (sc-1648 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-1648 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-1648 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-1648 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

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## STORAGE

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

## APPLICATIONS

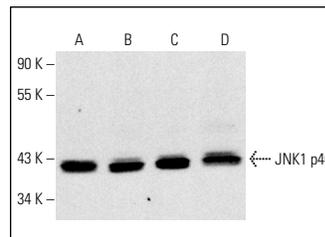
JNK1 (F-3) is recommended for detection of all JNK1 p46 and p54 isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting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

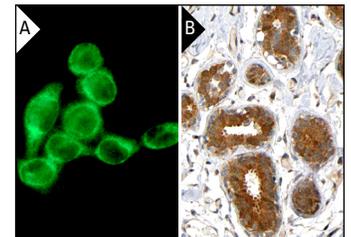
Molecular Weight of JNK1 p46/p54 isoforms: 46/54 kDa.

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<sup>®</sup> 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 $\alpha$ <sub>13</sub> transforms mouse fibroblast cells deficient in Insulin-like growth factor-I receptor. *J. Biol. Chem.* 272: 29438-29441.
2. Checa-Rojas, A., et al. 2018. GSTM3 and GSTP1: novel players driving tumor progression in cervical cancer. *Oncotarget* 9: 21696-21714.
3. Stramucci, L., et al. 2019. MKK3 sustains cell proliferation and survival through p38DELTA MAPK activation in colorectal cancer. *Cell Death Dis.* 10: 842.
4. Gan, W., et al. 2020. LATS suppresses mTORC1 activity to directly coordinate Hippo and mTORC1 pathways in growth control. *Nat. Cell Biol.* 22: 246-256.

## RESEARCH USE

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