

# JNK1/2 (E-5): sc-137020

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: MAPK8 (human) mapping to 10q11.22, MAPK9 (human) mapping to 5q35.3; Mapk8 (mouse) mapping to 14 B, Mapk9 (mouse) mapping to 11 B1.2.

## SOURCE

JNK1/2 (E-5) is a mouse monoclonal antibody raised against amino acids 1-384 representing full length JNK1 p46 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.

## APPLICATIONS

JNK1/2 (E-5) is recommended for detection of JNK1 and JNK2 p46 and p54 isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of JNK1/2 p46 isoform: 46 kDa.

Molecular Weight of JNK1/2 p54 isoform: 54 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, HeLa + TNF $\alpha$  cell lysate: sc-2228 or HeLa + UV irradiated cell lysate: sc-2221.

## STORAGE

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

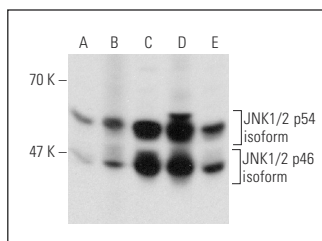
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

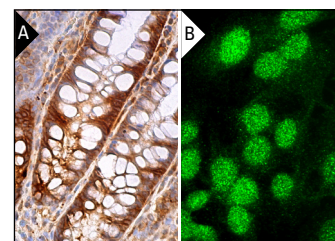
## RESEARCH USE

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

## DATA



JNK1/2 (E-5): sc-137020. Western blot analysis of JNK1/2 expression in TNF $\alpha$  treated HeLa (A), UV irradiated HeLa (B), UV irradiated NIH/3T3 (C), PC-12 (D) and TNF $\alpha$  NIH/3T3 (E) whole cell lysates.



JNK1/2 (E-5): sc-137020. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells (A). Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (B).

## SELECT PRODUCT CITATIONS

- Sorokina, E.M., et al. 2011. Intracellular targeting of peroxiredoxin 6 to lysosomal organelles requires MAPK activity and binding to 14-3-3 $\epsilon$ . *Am. J. Physiol., Cell Physiol.* 300: C1430-C1441.
- Engelmann, J., et al. 2012. Pulsed ultrasound and dimethylsulfoxide gel treatment reduces the expression of pro-inflammatory molecules in an animal model of muscle injury. *Ultrasound Med. Biol.* 38: 1470-1475.
- Su, X., et al. 2015. Expression of FABP4, adiponectin and adiponectin in Paneth cells is modulated by gut *Lactobacillus*. *Sci. Rep.* 5: 18588.
- Van Meter, M., et al. 2016. JNK phosphorylates SIRT6 to stimulate DNA double-strand break repair in response to oxidative stress by recruiting PARP1 to DNA breaks. *Cell Rep.* 16: 2641-2650.
- Ogunbolude, Y., et al. 2017. FRK inhibits breast cancer cell migration and invasion by suppressing epithelial-mesenchymal transition. *Oncotarget* 8: 113034-113065.
- Guo, X., et al. 2018. RP105 ameliorates hypoxia/reoxygenation injury in cardiac microvascular endothelial cells by suppressing TLR4/MAPK6/NF $\kappa$ B signaling. *Int. J. Mol. Med.* 42: 505-513.
- Chen, M.F., et al. 2019. Erianin protects against high glucose-induced oxidative injury in renal tubular epithelial cells. *Food Chem. Toxicol.* 126: 97-105.
- Yang, C.M., et al. 2020. Mevastatin-induced AP-1-dependent HO-1 expression suppresses vascular cell adhesion molecule-1 expression and monocyte adhesion on human pulmonary alveolar epithelial cells challenged with TNF- $\alpha$ . *Biomolecules* 10: 381.

## CONJUGATES

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