SANTA CRUZ BIOTECHNOLOGY, INC.

JNK1/2 (D-9): sc-137019

SANTA CRUZ BIOTECHNOLOGY

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 JNK1α1, JNK1β1, JNK2α1, JNK2β1 and JNK3α1, which represent the p46 isoforms, and JNK1α2, JNK1β2, JNK2α2, JNK2β2 and JNK3β2, 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.

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.

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 (D-9) is a mouse monoclonal antibody raised against amino acids 1-384 representing full length JNK1 p46 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

JNK1/2 (D-9) 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 µg per 100-500 µg 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).

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

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

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, HeLa + TNFα cell lysate: sc-2228 or HeLa + UV irradiated cell lysate: sc-2221.

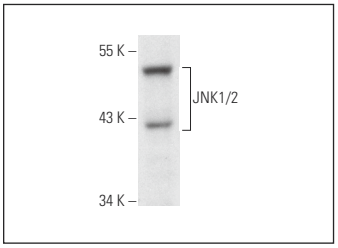
RESEARCH USE

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

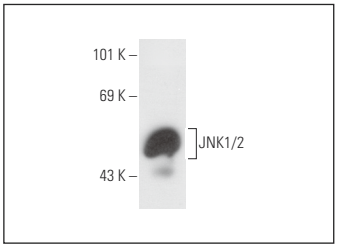
STORAGE

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

DATA



JNK1/2 (D-9): sc-137019. Western blot analysis of JNK1/2 expression in RAW 264.7 whole cell lysate.



JNK1/2 (D-9): sc-137019. Western blot analysis of human recombinant JNK1/2.

SELECT PRODUCT CITATION

1. Xiao, H., et al. 2011. Deprenyl prevents MPP^+-induced oxidative damage in PC12 cells by the upregulation of Nrf2-mediated NQO1 expression through the activation of PI3K/Akt and Erk. Toxicology 290: 286-294.
2. Oliveira-Junior, S.A., et al. 2014. AT1 receptor blockade attenuates Insulin resistance and myocardial remodeling in rats with diet-induced obesity. PLoS ONE 9: e86447.
3. Martinez, P.F., et al. 2016. Modulation of MAPK and NFκB signaling pathways by antioxidant therapy in skeletal muscle of heart failure rats. Cell. Physiol. Biochem. 39: 371-384.
4. Silva, R.A.C., et al. 2017. Cardiac remodeling induced by all-*trans* retinoic acid is detrimental in normal rats. Cell. Physiol. Biochem. 43: 1449-1459.
5. Morel, C., et al. 2018. JIP1-mediated JNK activation negatively regulates synaptic plasticity and spatial memory. J. Neurosci. 38: 3708-3728.
6. Reyes, D.R.A., et al. 2019. Exercise during transition from compensated left ventricular hypertrophy to heart failure in aortic stenosis rats. J. Cell. Mol. Med. 23: 1235-1245.
7. Huo, J., et al. 2020. ASK1 mediates Nur77 expression in T-cell receptor mediated thymocyte apoptosis. Cells 9: 585.
8. Tian, W., et al. 2021. MiR-218 inhibits glucose metabolism in non-small cell lung cancer via the NFκB signaling pathway. Exp. Ther. Med. 21: 106.
9. Bal, N.B., et al. 2022. Resveratrol and regular exercise may attenuate hypertension-induced cardiac dysfunction through modulation of cellular stress responses. Life Sci. 296: 120424.