SANTA CRUZ BIOTECHNOLOGY, INC.

p-JNK (G-7): sc-6254

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mitogen-activated protein (MAP) kinases ERK-1 and ERK-2 are proline-directed kinases that are activated through concomitant phosphorylation of tyrosine and threonine residues. The JNK family, which includes JNK1, JNK2 and JNK3, is distantly related to the MAP kinase family, members of which are activated by dual phosphorylation at a Thr-Pro-Tyr motif, specifically at Thr 183 and Tyr 185 residues, in response to ultraviolet (UV) light. This motif is divergent from the Thr-Glu-Tyr motif characteristic of the MAP kinase family. JNK is phosphorylated by JNK-activating kinase (JNKK1 and JNKK2), which are members of the MEK family. Activated JNK mediates the phosphorylation of c-Jun at the amino-terminal serine regulatory sites, Ser 63 and Ser 73, which stimulates the transactivation function of c-Jun.

SOURCE

p-JNK (G-7) is a mouse monoclonal antibody raised against a sequence containing Thr 183 and Tyr 185 phosphorylated JNK of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-JNK (G-7) is available conjugated to agarose (sc-6254 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-6254 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-6254 PE), fluorescein (sc-6254 FITC), Alexa Fluor® 488 (sc-6254 AF488), Alexa Fluor® 546 (sc-6254 AF546), Alexa Fluor® 594 (sc-6254 AF594) or Alexa Fluor® 647 (sc-6254 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-6254 AF680) or Alexa Fluor® 790 (sc-6254 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, p-JNK (G-7) is available conjugated to biotin (sc-6254 B), 200 µg/ml, for WB, IHC(P) and ELISA; and to TRITC (sc-6254 TRITC, 200 µg/ml), 100 µg/2 ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-6254 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-JNK (G-7) is recommended for detection of Thr 183 and Tyr 185 phosphorylated JNK1, JNK2 and JNK3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), 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 p-JNK p46 isoform: 46 kDa.

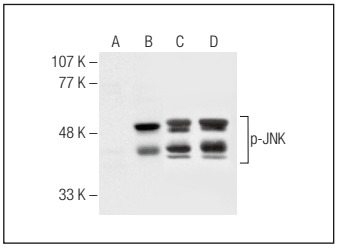
Molecular Weight of p-JNK p54 isoform: 54 kDa.

Positive Controls: NIH/3T3 + anisomycin cell lysate: sc-2247, NIH/3T3 + UV cell lysate: sc-3804 or RAW 264.7 + UV cell lysate: sc-24769.

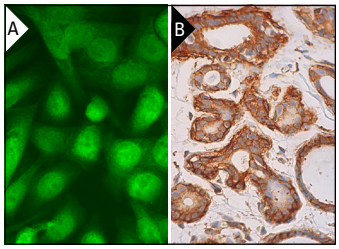
STORAGE

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

DATA



Western blot analysis of JNK phosphorylation in untreated (**A**,**C**) and anisomycin treated (**B**,**D**) Jurkat whole cell lysates. Antibodies tested include p-JNK (G-7): sc-6254 (**A**,**B**) and JNK (FL): sc-571 (**C**,**D**).



p-JNK (G-7) Alexa Fluor® 488: sc-6254 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). p-JNK (G-7): sc-6254. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic and membrane staining of glandular cells and myoepithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Chan, E.D., et al. 1997. Preferential activation of the p46 isoform of JNK/SAPK in mouse macrophages by TNFα. Proc. Natl. Acad. Sci. USA 94: 13169-13174.
2. Choi, H.S., et al. 2016. DSGOST inhibits tumor growth by blocking VEGF/VEGFR2-activated angiogenesis. Oncotarget 7: 21775-21785.
3. Retzlaff, J., et al. 2017. Flunarizine suppresses endothelial Angiopoietin-2 in a calcium-dependent fashion in sepsis. Sci. Rep. 7: 44113.
4. Gibbs, K.L., et al. 2018. Inhibiting p38 MAPKα rescues axonal retrograde transport defects in a mouse model of ALS. Cell Death Dis. 9: 596.
5. Challa, T.D., et al. 2019. Liver ASK1 protects from non-alcoholic fatty liver disease and fibrosis. EMBO Mol. Med. 11: e10124.
6. Kim, I.H., et al. 2020. PYP1-4 peptide from *Pyropia yezoensis* protects against acetaminophen-induced hepatotoxicity in Hep G2 cells. Exp. Ther. Med. 19: 849-860.
7. Ding, Z., et al. 2021. Cholesterol biosynthesis inhibitor RO 48-8071 inhibits pancreatic ductal adenocarcinoma cell viability by deactivating the JNK and ERK/MAPK signaling pathway. Mol. Med. Rep. 24: 828.
8. Wu, Z., et al. 2022. Extracellular vesicles derived from *Pinctada martensii* mucus regulate skin inflammation via the NFκB/NLRP3/MAPK pathway. Biochem. Biophys. Res. Commun. 634: 10-19.
9. Kim, M.J., et al. 2023. Melatonin-mediated FKBP4 downregulation protects against stress-induced neuronal mitochondria dysfunctions by blocking nuclear translocation of GR. Cell Death Dis. 14: 146.

RESEARCH USE

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