SANTA CRUZ BIOTECHNOLOGY, INC.

p38α MAPK14 (9F12): sc-81621

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MAP (mitogen-activated protein) kinases play a significant role in many biological processes, including cell adhesion and spreading, cell differentiation and apoptosis. p38α MAPK14, p38β MAPK11 and p38γ MAPK12 each contain one protein kinase domain and belong to the MAP kinase family. Expressed in different areas throughout the body with common expression patterns in heart, p38 proteins use magnesium as a cofactor to catalyze the ATP-dependent phosphorylation of target proteins. Via their catalytic activity, p38α MAPK14, p38β MAPK11 and p38γ MAPK12 are involved in a variety of events throughout the cell, including signal transduction pathways, cytokine production and cell proliferation and differentiation. The p38 proteins are subject to phosphoryation on Thr and Tyr residues, an event which is thought to activate the phosphorylated protein.

CHROMOSOMAL LOCATION

Genetic locus: MAPK14 (human) mapping to 6p21.31; Mapk14 (mouse) mapping to 17 A3.3.

SOURCE

p38α MAPK14 (9F12) is a mouse monoclonal antibody raised against full length recombinant p38α MAPK14 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.

p38α MAPK14 (9F12) is available conjugated to agarose (sc-81621 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-81621 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-81621 PE), fluorescein (sc-81621 FITC), Alexa Fluor® 488 (sc-81621 AF488), Alexa Fluor® 546 (sc-81621 AF546), Alexa Fluor® 594 (sc-81621 AF594) or Alexa Fluor® 647 (sc-81621 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-81621 AF680) or Alexa Fluor® 790 (sc-81621 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

p38α MAPK14 (9F12) is recommended for detection of p38α MAPK14 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for p38α MAPK14 siRNA (h): sc-29433, p38α MAPK14 siRNA (m): sc-29434, p38α MAPK14 siRNA (r): sc-156091, p38α MAPK14 shRNA Plasmid (h): sc-29433-SH, p38α MAPK14 shRNA Plasmid (m): sc-29434-SH, p38α MAPK14 shRNA Plasmid (r): sc-156091-SH, p38α MAPK14 shRNA (h) Lentiviral Particles: sc-29433-V, p38α MAPK14 shRNA (m) Lentiviral Particles: sc-29434-V and p38α MAPK14 shRNA (r) Lentiviral Particles: sc-156091-V.

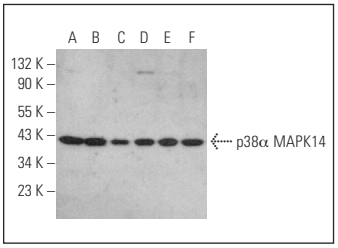
Molecular Weight of p38α MAPK14: 38 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

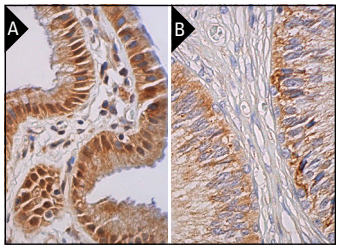
STORAGE

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

DATA



p38α MAPK14 (9F12): sc-81621. Western blot analysis of p38α MAPK14 expression in K-562 (**A**), HL-60 (**B**), A-431 (**C**), MCF7 (**D**), NIH/3T3 (**E**) and RAW 309 Cr.1 (**F**) whole cell lysates.



p38α MAPK14 (9F12): sc-81621. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and nuclear staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Chang, Y.Y., et al. 2013. Hepatoprotection of noni juice against chronic alcohol consumption: lipid homeostasis, antioxidation, alcohol clearance, and anti-inflammation. J. Agric. Food Chem. 61: 11016-11024.
2. Bao, M.H., et al. 2014. Protective effects of let-7a and let-7b on oxidized low-density lipoprotein induced endothelial cell injuries. PLoS ONE 9: e106540.
3. Marampon, F., et al. 2015. Vitamin D protects endothelial cells from irradiation-induced senescence and apoptosis by modulating MAPK/SirT1 axis. J. Endocrinol. Invest. 39: 411-422.
4. Rasmussen, M.H., et al. 2016. MiR-625-3p regulates oxaliplatin resistance by targeting MAP2K6-p38 signalling in human colorectal adenocarcinoma cells. Nat. Commun. 7: 12436.
5. Yoon, C., et al. 2017. Role of Rac 1 pathway in epithelial-to-mesenchymal transition and cancer stem-like cell phenotypes in gastric adenocarcinoma. Mol. Cancer Res. 15: 1106-1116.
6. Zonneville, J., et al. 2018. TGF-β signaling promotes tumor vasculature by enhancing the pericyte-endothelium association. BMC Cancer 18: 670.
7. Shin, S., et al. 2019. l-ornithine activates Ca^{2+} signaling to exert its protective function on human proximal tubular cells. Cell. Signal. 23: 109484.
8. Okimoto, T., et al. 2020. Pemetrexed sensitizes human lung cancer cells to cytotoxic immune cells. Cancer Sci. 111: 1910-1920.
9. Kang, K., et al. 2020. 3-O-acetylrubianol C (3AR-C) induces RIPK1-dependent programmed cell death by selective inhibition of IKKβ. FASEB J. 34: 4369-4383.

RESEARCH USE

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