SANTA CRUZ BIOTECHNOLOGY, INC.

p38α MAPK14 (F-9): sc-271120

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.

REFERENCES

1. Lee, J.C., et al. 1994. A protein kinase involved in the regulation of inflammatory cytokine biosynthesis. Nature 372: 739-746.
2. Han, J., et al. 1995. Molecular cloning of human p38 MAP kinase. Biochim. Biophys. Acta 1265: 224-227.
3. Li, Z., et al. 1996. The primary structure of p38γ: a new member of p38 group of MAP kinases. Biochem. Biophys. Res. Commun. 228: 334-340.

CHROMOSOMAL LOCATION

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

SOURCE

p38α MAPK14 (F-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 329-360 at the C-terminus of p38α MAPK14 of mouse 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.

p38α MAPK14 (F-9) is available conjugated to agarose (sc-271120 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271120 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271120 PE), fluorescein (sc-271120 FITC), Alexa Fluor® 488 (sc-271120 AF488), Alexa Fluor® 546 (sc-271120 AF546), Alexa Fluor® 594 (sc-271120 AF594) or Alexa Fluor® 647 (sc-271120 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271120 AF680) or Alexa Fluor® 790 (sc-271120 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271120 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

p38α MAPK14 (F-9) is recommended for detection of p38α MAPK14 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), 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).

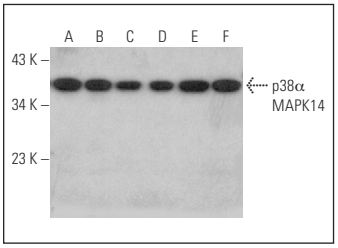
p38α MAPK14 (F-9) is also recommended for detection of p38α MAPK14 in additional species, including bovine, porcine and avian.

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.

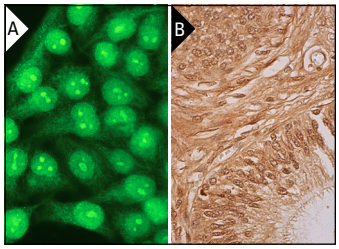
Molecular Weight of p38α MAPK14: 38 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, K-562 whole cell lysate: sc-2203 or A-431 whole cell lysate: sc-2201.

DATA



p38α MAPK14 (F-9): sc-271120. Western blot analysis of p38α MAPK14 expression in K-562 (**A**), MCF7 (**B**), KNRK (**C**), A-431 (**D**), RAW 309 Cr.1 (**E**) and NIH/3T3 (**F**) whole cell lysates.



p38α MAPK14 (F-9): sc-271120. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing cytoplasmic and nuclear staining of glandular cells and interstitial cells (**B**).

SELECT PRODUCT CITATIONS

1. Tiriveedhi, V., et al. 2012. HIF-1α signaling by airway epithelial cell K-α1-Tubulin: role in fibrosis and chronic rejection of human lung allografts. Cell. Immunol. 273: 59-66.
2. Zhang, R., et al. 2021. Long non-coding RNA NEAT1 promotes lipopolysaccharide-induced acute lung injury by regulating miR-424-5p/MAPK14 axis. Genes Genomics 43: 815-827.
3. Lee, H.W., et al. 2022. Glycolaldehyde induces synergistic effects on vascular inflammation in TNF-α-stimulated vascular smooth muscle cells. PLoS ONE 17: e0270249.

STORAGE

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