SANTA CRUZ BIOTECHNOLOGY, INC.

# p38α MAPK14 (G-7): sc-166357

## 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 (G-7) 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 $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166357 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

p38α MAPK14 (G-7) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p38α MAPK14 (G-7) 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.

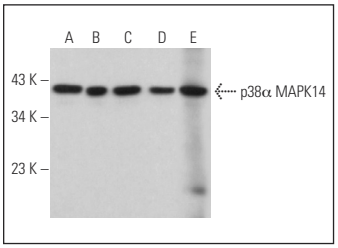
Molecular Weight of p38α MAPK14: 38 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Jurkat whole cell lysate: sc-2204 or MCF7 whole cell lysate: sc-2206.

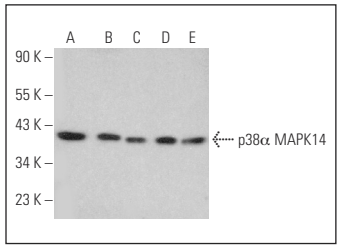
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA




p38α MAPK14 (G-7): sc-166357. Western blot analysis of p38α MAPK14 expression in Jurkat (**A**), MEG-01 (**B**), M1 (**C**) and RAW 264.7 (**D**) whole cell lysates and rat thymus tissue extract (**E**).




p38α MAPK14 (G-7): sc-166357. Western blot analysis of p38α MAPK14 expression in Jurkat (**A**), HL-60 (**B**), MCF7 (**C**), NIH/3T3 (**D**) and RAW 309 Cr.1 (**E**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Abdelfadil, E., et al. 2013. Thymoquinone induces apoptosis in oral cancer cells through p38β inhibition. Am. J. Chin. Med. 41: 683-696.
2. Zhang, B., et al. 2015. p38MAPK activation mediates tumor necrosis factor-α-induced apoptosis in glioma cells. Mol. Med. Rep. 11: 3101-3107.
3. Lim, H.M., et al. 2022. Acetylshikonin, a novel CYP2J2 inhibitor, induces apoptosis in RCC cells via FOXO3 activation and ROS elevation. Oxid. Med. Cell. Longev. 2022: 9139338.


## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.