

# p-p38 (D-8): sc-7973

## BACKGROUND

MAP (mitogen-activated protein) kinases play a significant role in many biological processes, including cell adhesion and spreading, cell differentiation and apoptosis. p38 $\alpha$ , p38 $\beta$  and p38 $\gamma$ , also known as MAPK14, MAPK11 and MAPK12, respectively, 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, p38 $\alpha$ , p38 $\beta$  and p38 $\gamma$  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 phosphorylation on Thr and Tyr residues, an event which is thought to activate the phosphorylated protein.

## SOURCE

p-p38 (D-8) is a mouse monoclonal antibody raised against Tyr 182 phosphorylated p38 $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-p38 (D-8) is available conjugated to agarose (sc-7973 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; and to fluorescein (sc-7973 FITC), 200  $\mu$ g/ml, for IF, IHC(P) and FCM.

In addition, p-p38 (D-8) is available conjugated to TRITC (sc-7973 TRITC, 200  $\mu$ g/ml), 100  $\mu$ g/2 ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-7973 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

p-p38 (D-8) is recommended for detection of Tyr 182 phosphorylated p38 $\alpha$ , p38 $\beta$  and p38 $\gamma$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

p-p38 (D-8) is also recommended for detection of correspondingly phosphorylated p38 $\alpha$ , p38 $\beta$  and p38 $\gamma$  in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of p-p38: 38 kDa.

Positive Controls: NIH/3T3 + UV cell lysate: sc-3804, NIH/3T3 + heat shock cell lysate: sc-2217 or A-431 whole cell lysate: sc-2201.

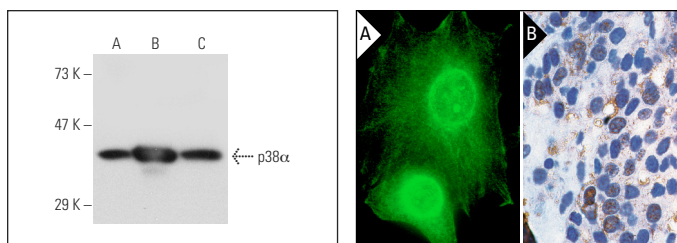
## STORAGE

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.

## DATA



p38 (P-8): sc-7972. Western blot analysis of p38 $\alpha$  expression in non-transfected 293T: sc-117752 (A), mouse p38 $\alpha$  transfected 293T: sc-122319 (B) and Jurkat (C) whole cell lysates.

p-p38 (D-8): sc-7973. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear localization of activated p38 (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human liver carcinoma tissue showing nuclear localization of activated p38 (B).

## SELECT PRODUCT CITATIONS

- Qiao, J., et al. 2000. Bile acid induce activation of activator protein-1 requires both extracellular signal-regulated kinase and protein kinase C signaling. *J. Biol. Chem.* 275: 15090-15098.
- Nishida, M., et al. 2000. G $\alpha_i$  and G $\alpha_o$  are target proteins of reactive oxygen species. *Nature* 408: 492-495.
- Lim, J.S., et al. 2015. Direct regulation of TLR5 expression by caveolin-1. *Mol. cells* 38: 1111-1117.
- Jang, S.A., et al. 2016. *Cynanchum wilfordii* radix attenuates liver fat accumulation and damage by suppressing hepatic cyclooxygenase-2 and mitogen-activated protein kinase in mice fed with a high-fat and high-fructose diet. *Nutr. Res.* 36: 914-924.
- Yang, W.S., et al. 2016. Antiallergic activity of ethanol extracts of *Arctium lappa* L. undried roots and its active compound, oleamide, in regulating fceRI-mediated and MAPK signaling in RBL-2H3 cells. *J. Agric. Food Chem.* 64: 3564-3573.
- Feng, T., et al. 2017. Hepatocyte-specific Smad7 deletion accelerates DEN-induced HCC via activation of STAT3 signaling in mice. *Oncogenesis* 6: e294.
- Fong, Y., et al. 2017. Dual roles of extracellular signal-regulated kinase (ERK) in quinoline compound BPIQ-induced apoptosis and anti-migration of human non-small cell lung cancer cells. *Cancer Cell Int.* 17: 37.
- Heo, S.Y., et al. 2017. A heptameric peptide purified from *Spirulina* sp. gastrointestinal hydrolysate inhibits angiotensin I-converting enzyme- and angiotensin II-induced vascular dysfunction in human endothelial cells. *Int. J. Mol. Med.* 39: 1072-1082.

## CONJUGATES

See **p-p38 (E-1): sc-166182** for p-p38 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647.