

# p-p38 (Thr 180/Tyr 182)-R: sc-17852-R

## 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.

## REFERENCES

- Lee, J.C., et al. 1994. A protein kinase involved in the regulation of inflammatory cytokine biosynthesis. *Nature* 372: 739-746.
- Han, J., et al. 1995. Molecular cloning of human p38 MAP kinase. *Biochim. Biophys. Acta* 1265: 224-227.

## SOURCE

p-p38 (Thr 180/Tyr 182)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Thr 180 and Tyr 182 dually phosphorylated p38 $\alpha$  of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17852 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-p38 (Thr 180/Tyr 182)-R is recommended for detection of Thr 180 and Tyr 182 dually phosphorylated p38 $\alpha$  and correspondingly phosphorylated p38 $\beta$ , p38 $\gamma$  and p38 $\delta$  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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-p38 (Thr 180/Tyr 182)-R is also recommended for detection of correspondingly phosphorylated p38 $\alpha$ , p38 $\beta$ , p38 $\gamma$  and p38 $\delta$  in additional species, including canine, bovine, porcine and avian.

Molecular Weight of p-p38: 38 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or p38 $\alpha$  (h): 293T Lysate: sc-114258.

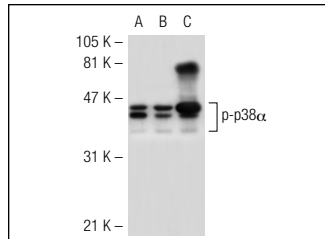
## STORAGE

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



p-p38 (Thr 180/Tyr 182)-R: sc-17852-R. Western blot analysis of p38 $\alpha$  phosphorylation expression in non-transfected 293T: sc-117752 (A), human p38 $\alpha$  transfected 293T: sc-114258 (B) and Jurkat (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Bordin, S., et al. 2003. Cutting edge: proliferating fibroblasts respond to collagenous C1q with phosphorylation of p38 mitogen-activated protein kinase and apoptotic features. *J. Immunol.* 170: 667-671.
- Mangino, G., et al. 2007. *In vitro* treatment of human monocytes/macrophages with myristoylated recombinant Nef of human immunodeficiency virus type 1 leads to the activation of mitogen-activated protein kinases, I $\kappa$ B kinases, and interferon regulatory factor 3 and to the release of  $\beta$ -interferon. *J. Virol.* 81: 2777-2791.
- Seoane, M., et al. 2008. Retinoblastoma loss modulates DNA damage response favoring tumor progression. *PLoS ONE* 3: e3632.
- Zhang, Y., et al. 2009. Regulation of T cell development and activation by creatine kinase B. *PLoS ONE* 4: e5000.
- Takeichi, T., et al. 2010. Overexpression of LEDGF/DFS70 induces IL-6 via p38 activation in HaCaT cells, similar to that seen in the psoriatic condition. *J. Invest. Dermatol.* 130: 2760-2767.
- Chiang, H.M., et al. 2011. *Coffea arabica* extract and its constituents prevent photoaging by suppressing MMPs expression and MAP kinase pathway. *Food Chem. Toxicol.* 49: 309-318.
- Segreto, H.R., et al. 2011. Phosphorylation and cytoplasmic localization of MAPK p38 during apoptosis signaling in bone marrow granulocytes of mice irradiated *in vivo* and the role of amifostine in reducing these effects. *Acta Histochem.* 113: 300-307.


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Try **p-p38 (E-1): sc-166182** or **p-p38 (D-8): sc-7973**, our highly recommended monoclonal alternatives to p-p38 (Thr 180/Tyr 182). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **p-p38 (E-1): sc-166182**.