

# p-p38 (Tyr 182)-R: sc-7975-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 (Tyr 182)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 182 phosphorylated p38 $\alpha$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-7975 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-p38 (Tyr 182)-R 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-p38 (Tyr 182)-R 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 K-562 + UV cell lysate: sc-24724.

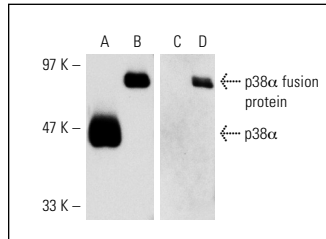
## STORAGE

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

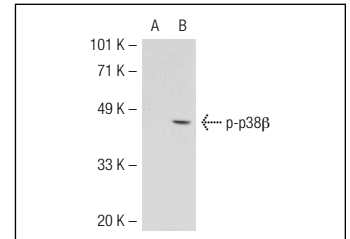
## RESEARCH USE

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

## DATA



Western blot analysis of inactive untagged human recombinant p38 $\alpha$  (A, C) and active human recombinant p38 $\alpha$  fusion protein (B, D). Antibodies tested include: p38 (H-147): sc-7149 (A, B) and p-p38 (Tyr 182)-R: sc-7975-R (C, D).



p-p38 (Tyr 182)-R: sc-7975-R. Western blot analysis of phosphorylated p38 $\beta$  expression in non-transfected: sc-117752 (A) and human p38 $\beta$  transfected: sc-114080 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Kontoyiannis, D., et al. 2001. Interleukin-10 targets p38 MAPK to modulate ARE-dependent TNF mRNA translation and limit intestinal pathology. *EMBO J.* 20: 3760-3770.
- Jakubikova, J., et al. 2005. Role of PI3K/Akt and MEK/ERK signaling pathways in sulforaphane- and erucin-induced phase II enzymes and MRP2 transcription, G<sub>2</sub>/M arrest and cell death in Caco-2 cells. *Biochem. Pharmacol.* 69: 1543-1552.
- Medicherla, S., et al. 2006. Preventive and therapeutic potential of p38  $\alpha$ -selective mitogen-activated protein kinase inhibitor in nonobese diabetic mice with type 1 diabetes. *J. Pharmacol. Exp. Ther.* 318: 99-107.
- El Zein, N., et al. 2007. The neuropeptide pituitary adenylate cyclase activating protein stimulates human monocytes by transactivation of the Trk/NGF pathway. *Cell. Signal.* 19: 152-162.
- Tiwari, M., et al. 2008. Inhibition of N-(4-hydroxyphenyl)retinamide-induced autophagy at a lower dose enhances cell death in malignant glioma cells. *Carcinogenesis* 29: 600-609.
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- Hassan, A., et al. 2010. An  $\alpha$ -linolenic acid-rich formula reduces oxidative stress and inflammation by regulating NF $\kappa$ B in rats with TNBS-induced colitis. *J. Nutr.* 140: 1714-1721.
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**MONOS**  
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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 (Tyr 182). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **p-p38 (E-1): sc-166182**.