

# p-p38 MAPK (E-1): sc-166182

## BACKGROUND

MAP (mitogen-activated protein) kinases play a significant role in many biological processes, including cell adhesion and spreading, cell differentiation and apoptosis. p38 $\alpha$  MAPK14, p38 $\beta$  MAPK11 and p38 $\gamma$  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, p38 $\alpha$  MAPK14, p38 $\beta$  MAPK11 and p38 $\gamma$  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 phosphorylation 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, MAPK11/MAPK12 (human) mapping to 22q13.33; Mapk14 (mouse) mapping to 17 A3.3, Mapk11/Mapk12 (mouse) mapping to 15 E3.

## SOURCE

p-p38 MAPK (E-1) is a mouse monoclonal antibody raised against phosphorylated Tyr 182 of p38  $\alpha$  MAPK14 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-p38 MAPK (E-1) is available conjugated to agarose (sc-166182 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166182 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166182 PE), fluorescein (sc-166182 FITC), Alexa Fluor<sup>®</sup> 488 (sc-166182 AF488), Alexa Fluor<sup>®</sup> 546 (sc-166182 AF546), Alexa Fluor<sup>®</sup> 594 (sc-166182 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-166182 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-166182 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-166182 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166182 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

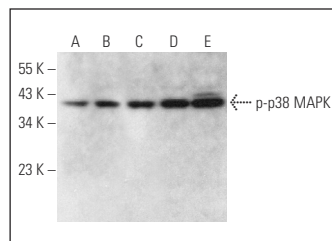
p-p38 MAPK (E-1) is recommended for detection of Tyr 182 phosphorylated p38 $\alpha$  MAPK14, p38 $\beta$  MAPK11 and p38 $\gamma$  MAPK12 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 MAPK (E-1) is also recommended for detection of correspondingly phosphorylated p38 $\alpha$  MAPK14, p38 $\beta$  MAPK11 and p38 $\gamma$  MAPK12 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of p-p38 MAPK: 38 kDa.

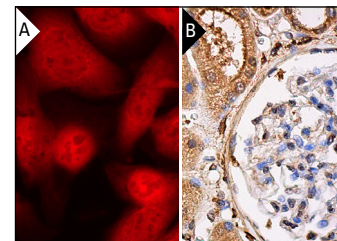
## STORAGE

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

## DATA



p-p38 MAPK (E-1): sc-166182. Western blot analysis of p38 MAPK phosphorylation in T98G (A), JAR (B), Sol8 (C), Neuro-2A (D) and C6 (E) whole cell lysates.



p-p38 MAPK (E-1) PE: sc-166182 PE. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic and nuclear localization. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 (A). p-p38 MAPK (E-1) HRP: sc-166182 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (B).

## SELECT PRODUCT CITATIONS

- Robinson, G.A. 1994. Role of fibulin-3 in lung cancer: *in vivo* and *in vitro* analyses. *Mol. Brain Res.* 24: 43-54.
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- Wang, Z., et al. 2015. Matrine inhibits the invasive properties of human glioma cells by regulating epithelial-to-mesenchymal transition. *Mol. Med. Rep.* 11: 3682-3686.
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- Chan, L.P., et al. 2017. IL-8 promotes inflammatory mediators and stimulates activation of p38 MAPK/ERK-NF $\kappa$ B pathway and reduction of JNK in HNSCC. *Oncotarget* 8: 56375-56388.
- Lei, F.X., et al. 2018. RIP1 protects melanoma cells from apoptosis induced by BRAF/MEK inhibitors. *Cell Death Dis.* 9: 679.
- Shiraki, M., et al. 2019. Deficiency of stress-associated gene Nupr1 increases bone volume by attenuating differentiation of osteoclasts and enhancing differentiation of osteoblasts. *FASEB J.* 33: 8836-8852.
- Lillo Urzúa, P., et al 2020. Loss of caveolin-1 is associated with a decrease in  $\beta$  cell death in mice on a high fat diet. *Int. J. Mol. Sci.* 21: 5225.
- He, Q., et al. 2021. Apelin-36 protects against lipopolysaccharide-induced acute lung injury by inhibiting the ASK1/MAPK signaling pathway. *Mol. Med. Rep.* 23: 6.

## RESEARCH USE

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

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