

# p38 $\beta$ MAPK11 (4H6H6): sc-101427

## 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.

## 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.
- Li, Z., et al. 1996. The primary structure of p38 $\gamma$ : a new member of p38 group of MAP kinases. *Biochem. Biophys. Res. Commun.* 228: 334-340.
- Jiang, Y., et al. 1996. Characterization of the structure and function of a new mitogen-activated protein kinase (p38 $\beta$ ). *J. Biol. Chem.* 271: 17920-17926.
- Tamura, K., et al. 2000. Requirement for p38 $\alpha$  in erythropoietin expression: a role for stress kinases in erythropoiesis. *Cell* 102: 221-231.
- Sudo, T., et al. 2002. Exip, a new alternative splicing variant of p38 $\alpha$ , can induce an earlier onset of apoptosis in HeLa cells. *Biochem. Biophys. Res. Commun.* 291: 838-843.
- Court, N.W., et al. 2002. Cardiac expression and subcellular localization of the p38 mitogen-activated protein kinase member, stress-activated protein kinase-3 (SAPK3). *J. Mol. Cell. Cardiol.* 34: 413-426.

## CHROMOSOMAL LOCATION

Genetic locus: MAPK11 (human) mapping to 22q13.33; Mapk11 (mouse) mapping to 15 E3.

## SOURCE

p38 $\beta$  MAPK11 (4H6H6) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 251-363 of p38 $\beta$  MAPK11 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

p38 $\beta$  MAPK11 (4H6H6) is recommended for detection of p38 $\beta$  MAPK11 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for p38 $\beta$  MAPK11 siRNA (h): sc-39116, p38 $\beta$  MAPK11 siRNA (m): sc-39117, p38 $\beta$  MAPK11 shRNA Plasmid (h): sc-39116-SH, p38 $\beta$  MAPK11 shRNA Plasmid (m): sc-39117-SH, p38 $\beta$  MAPK11 shRNA (h) Lentiviral Particles: sc-39116-V and p38 $\beta$  MAPK11 shRNA (m) Lentiviral Particles: sc-39117-V.

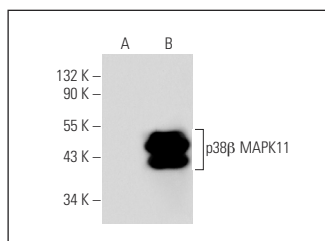
Molecular Weight of p38 $\beta$  MAPK11: 38 kDa.

Positive Controls: p38 $\beta$  MAPK11 (h): 293T Lysate: sc-114080.

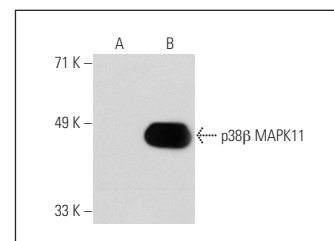
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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).

## DATA



p38 $\beta$  MAPK11 (4H6H6): sc-101427. Western blot analysis of p38 $\beta$  MAPK11 expression in non-transfected: sc-117752 (A) and human p38 $\beta$  MAPK11 transfected: sc-174918 (B) 293T whole cell lysates.




p38 $\beta$  MAPK11 (4H6H6): sc-101427. Western blot analysis of p38 $\beta$  MAPK11 expression in non-transfected: sc-117752 (A) and human p38 $\beta$  MAPK11 transfected: sc-114080 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Liu, Y.F., et al. 2016. Daidzein attenuates abdominal aortic aneurysm through NF $\kappa$ B, p38MAPK and TGF- $\beta$ 1 pathways. *Mol. Med. Rep.* 14: 955-962.

## RESEARCH USE

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



See **p38 $\alpha$ / MAPK (A-12): sc-7972** for p38 $\alpha$ / $\beta$  MAPK antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.