

# p38 $\gamma$ MAPK12 (E-11): sc-365487

## 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

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2. Han, J., et al. 1995. Molecular cloning of human p38 MAP kinase. *Biochim. Biophys. Acta* 1265: 224-227.
3. 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.
4. 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.
5. Tamura, K., et al. 2000. Requirement for p38 $\alpha$  in erythropoietin expression: a role for stress kinases in erythropoiesis. *Cell* 102: 221-231.
6. 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.
7. 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: MAPK12 (human) mapping to 22q13.33; Mapk12 (mouse) mapping to 15 E3.

## SOURCE

p38 $\gamma$  MAPK12 (E-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-27 at the N-terminus of p38 $\gamma$  MAPK12 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-365487 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

p38 $\gamma$  MAPK12 (E-11) is recommended for detection of p38 $\gamma$  MAPK12 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).

Suitable for use as control antibody for p38 $\gamma$  MAPK12 siRNA (h): sc-39013, p38 $\gamma$  MAPK12 siRNA (m): sc-39014, p38 $\gamma$  MAPK12 shRNA Plasmid (h): sc-39013-SH, p38 $\gamma$  MAPK12 shRNA Plasmid (m): sc-39014-SH, p38 $\gamma$  MAPK12 shRNA (h) Lentiviral Particles: sc-39013-V and p38 $\gamma$  MAPK12 shRNA (m) Lentiviral Particles: sc-39014-V.

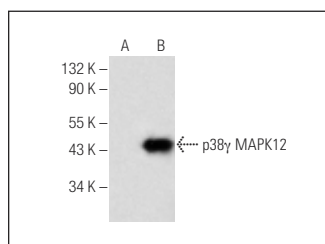
Molecular Weight of 38 $\gamma$  MAPK12: 38 kDa.

Positive Controls: Sol8 cell lysate: sc-2249 or p38 $\gamma$  MAPK12 (m2): 293T Lysate: sc-122318.

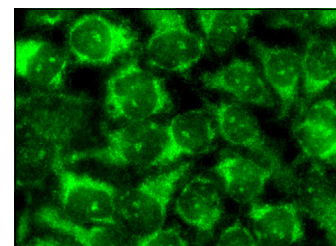
## RECOMMENDED SUPPORT REAGENTS

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™ Molecular Weight Standards: sc-2035, UltraCruz® 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). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



p38 $\gamma$  MAPK12 (E-11): sc-365487. Western blot analysis of p38 $\gamma$  MAPK12 expression in non-transfected: sc-117752 (A) and mouse p38 $\gamma$  MAPK12 transfected: sc-122318 (B) 293T whole cell lysates.



p38 $\gamma$  MAPK12 (E-11): sc-365487. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## 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.