

p38 γ MAPK12 (G5F3): sc-33690

BACKGROUND

MAP (mitogen-activated protein) kinases play a significant role in many biological processes, including cell adhesion and spreading, cell differentiation and apoptosis. p38 α MAPK14, p38 β MAPK11 and p38 γ 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 α MAPK14, p38 β MAPK11 and p38 γ 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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4. Jiang, Y., et al. 1996. Characterization of the structure and function of a new mitogen-activated protein kinase (p38 β). *J. Biol. Chem.* 271: 17920-17926.
5. Tamura, K., et al. 2000. Requirement for p38 α in erythropoietin expression: a role for stress kinases in erythropoiesis. *Cell* 102: 221-231.
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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.
8. Diskin, R., et al. 2004. Active mutants of the human p38 α mitogen-activated protein kinase. *J. Biol. Chem.* 279: 47040-47049.

CHROMOSOMAL LOCATION

Genetic locus: MAPK12 (human) mapping to 22q13.33.

SOURCE

p38 γ MAPK12 (G5F3) is a mouse monoclonal antibody raised against recombinant p38 γ MAPK12 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

p38 γ MAPK12 (G5F3) is recommended for detection of p38 γ MAPK12 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)]; may cross-react with p38 α and p38 δ .

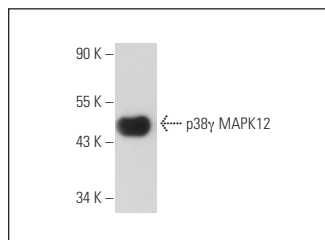
Suitable for use as control antibody for p38 γ MAPK12 siRNA (h): sc-39013, p38 γ MAPK12 shRNA Plasmid (h): sc-39013-SH and p38 γ MAPK12 shRNA (h) Lentiviral Particles: sc-39013-V.

Molecular Weight of p38 γ MAPK12: 38 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



p38 γ MAPK12 (G5F3): sc-33690. Western blot analysis of human recombinant p38 γ MAPK12.

SELECT PRODUCT CITATIONS

1. Chiarini, A., et al. 2009. Proteomic analysis of GTP cyclohydrolase 1 multi-protein complexes in cultured normal adult human astrocytes under both basal and cytokine-activated conditions. *Proteomics* 9: 1850-1860.
2. Bhaskaran, N., et al. 2009. Comparative proteome profiling of MCF10A and 184A1 human breast epithelial cells emphasized involvement of CDK4 and cyclin D3 in cell proliferation. *Proteomics Clin. Appl.* 3: 68-77.
3. Adhikary, G., et al. 2010. PKC- δ and - η , MEKK-1, MEK-6, MEK-3, and p38- δ are essential mediators of the response of normal human epidermal keratinocytes to differentiating agents. *J. Invest. Dermatol.* 130: 2017-2030.
4. Aguilar-Alonso, F.A., et al. 2015. MAPKs' status at early stages of renal carcinogenesis and tumors induced by ferric nitrilotriacetate. *Mol. Cell. Biochem.* 404: 161-170.
5. Grun, D., et al. 2019. NRP-1 interacts with GIPC1 and SYX to activate p38 MAPK signaling and cancer stem cell survival. *Mol. Carcinog.* 58: 488-499.

RESEARCH USE

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