

p38 β MAPK11 (h): 293T Lysate: sc-114080

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

1. Lee, J.C., Laydon, J.T., McDonnell, P.C., Gallagher, T.F., Kumar, S., Green, D., McNulty, D., Blumenthal, M.J., Heys, J.R. and Landvatter, S.W. 1994. A protein kinase involved in the regulation of inflammatory cytokine biosynthesis. *Nature* 372: 739-746.
2. Han, J., Richter, B., Li, Z., Kravchenko, V. and Ulevitch, R.J. 1995. Molecular cloning of human p38 MAP kinase. *Biochim. Biophys. Acta* 1265: 224-227.
3. Li, Z., Jiang, Y., Ulevitch, R.J. and Han, J. 1996. The primary structure of p38 γ : a new member of p38 group of MAP kinases. *Biochem. Biophys. Res. Commun.* 228: 334-340.
4. Jiang, Y., Chen, C., Li, Z., Guo, W., Gegner, J.A., Lin, S. and Han, J. 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., Sudo, T., Senftleben, U., Dadak, A.M., Johnson, R. and Karin, M. 2000. Requirement for p38 α in erythropoietin expression: a role for stress kinases in erythropoiesis. *Cell* 102: 221-231.
6. Sudo, T., Yagasaki, Y., Hama, H., Watanabe, N. and Osada, H. 2002. Eip, a new alternative splicing variant of p38 α , can induce an earlier onset of apoptosis in HeLa cells. *Biochem. Biophys. Res. Commun.* 291: 838-843.
7. Court, N.W., dos Remedios, C.G., Cordell, J. and Bogoyevitch, M.A. 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., Askari, N., Capone, R., Engelberg, D. and Livnah, O. 2004. Active mutants of the human p38 α mitogen-activated protein kinase. *J. Biol. Chem.* 279: 47040-47049.
9. Zohn, I.E., Li, Y., Skolnik, E.Y., Anderson, K.V., Han, J. and Niswander, L. 2006. p38 and a p38-interacting protein are critical for downregulation of E-cadherin during mouse gastrulation. *Cell* 125: 957-969.

CHROMOSOMAL LOCATION

Genetic locus: MAPK11 (human) mapping to 22q13.33.

RESEARCH USE

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

PRODUCT

p38 β MAPK11 (h): 293T Lysate represents a lysate of human p38 β MAPK11 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

p38 β MAPK11 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive p38 β MAPK11 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

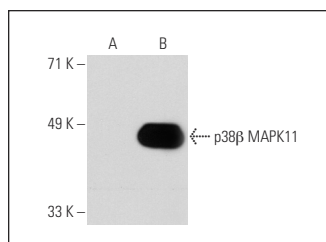
p38 β MAPK11 (4H6H6): sc-101427 is recommended as a positive control antibody for Western Blot analysis of enhanced human p38 β MAPK11 expression in p38 β MAPK11 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

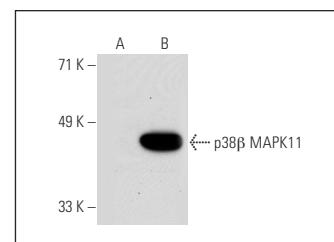
To ensure optimal results, the following support reagents are recommended:

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.

DATA



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



p38 β MAPK11 (BB10): sc-33689. Western blot analysis of p38 β MAPK11 expression in non-transfected: sc-117752 (A) and human p38 β MAPK11 transfected: sc-114080 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.