



p38 MAPK (213-360): sc-4315

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., et al. 1994. A protein kinase involved in the regulation of inflammatory cytokine biosynthesis. *Nature* 372: 739-746.
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 γ : 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 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.
6. Sudo, T., et al. 2002. Exip, 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., 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.
9. Zohn, I.E., et al. 2006. p38 and a p38-interacting protein are critical for downregulation of E-cadherin during mouse gastrulation. *Cell* 125: 957-969.

SOURCE

p38 MAPK (213-360) is expressed in *E. coli* as a 43 kDa tagged fusion protein corresponding to amino acids 213-360 of p38 MAPK of human origin.

PRODUCT

p38 MAPK (213-360) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 50 μ g in 0.1 ml buffer

APPLICATIONS

p38 MAPK (213-360) is suitable as a Western blotting control for sc-535, sc-7149 and sc-7972.

STORAGE

Store at -20 $^{\circ}$ C; stable for one year from the date of shipment.

RESEARCH USE

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

PROTOCOLS

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