

p38 alpha MAPK14 (A1F7): sc-33688

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

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.

CHROMOSOMAL LOCATION

Genetic locus: MAPK14 (human) mapping to 6p21.31.

SOURCE

p38 alpha MAPK14 (A1F7) is a mouse monoclonal antibody raised against recombinant p38 alpha MAPK14 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p38 alpha MAPK14 (A1F7) is recommended for detection of p38 alpha MAPK14 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for p38 alpha MAPK14 siRNA (h): sc-29433, p38 alpha MAPK14 shRNA Plasmid (h): sc-29433-SH and p38 alpha shRNA (h) Lentiviral Particles: sc-29433-V.

Molecular Weight of p38 alpha MAPK14: 38 kDa.

Positive Controls: p38 alpha MAPK14 (h): 293T Lysate: sc-114258, MCF7 whole cell lysate: sc-2206 or A-431 whole cell lysate: sc-2201.

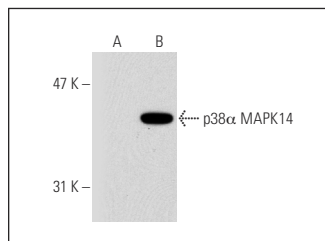
RESEARCH USE

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

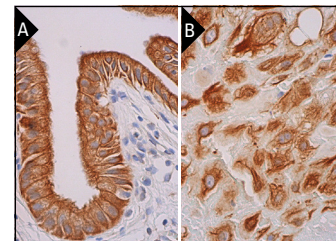
STORAGE

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

DATA



p38 α MAPK14 (A1F7): sc-33688. Western blot analysis of p38 α MAPK14 expression in non-transfected: sc-117752 (A) and human p38 α MAPK14 transfected: sc-114258 (B) 293T whole cell lysates.



p38 alpha MAPK14 (A1F7): sc-33688. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of for-malin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidual cells (B).

SELECT PRODUCT CITATIONS

1. Freund-Michel, V., et al. 2006. TrkA signalling pathways in human airway smooth muscle cell proliferation. *Cell. Signal.* 18: 621-627.
2. Wang, X., et al. 2010. Changes in the level of apoptosis-related proteins in Jurkat cells infected with HIV-1 versus HIV-2. *Mol. Cell. Biochem.* 337: 175-183.
3. Lin, C.C., et al. 2015. Sphingosine-1-phosphate mediates ICAM-1-dependent monocyte adhesion through p38 MAPK and p42/p44 MAPK-dependent Akt activation. *PLoS ONE* 10: e0118473.
4. Yang, C.M., et al. 2017. Resveratrol inhibits BK-induced Cox-2 transcription by suppressing acetylation of AP-1 and NF κ B in human rheumatoid arthritis synovial fibroblasts. *Biochem. Pharmacol.* 132: 77-91.
5. Yu, C.D., et al. 2018. Inhibition of miR-126 protects chondrocytes from IL-1 β induced inflammation via upregulation of Bcl-2. *Bone Joint Res.* 7: 414-421.
6. Wen, S.Y., et al. 2019. Roles of p38 α and p38 β mitogen-activated protein kinase isoforms in human malignant melanoma A375 cells. *Int. J. Mol. Med.* 44: 2123-2132.
7. Yang, J., et al. 2020. Design, synthesis, and structure-activity relationships of 1,2,3-triazole benzenesulfonamides as new selective leucine-zipper and sterile- α motif kinase (ZAK) Inhibitors. *J. Med. Chem.* 63: 2114-2130.
8. Mele, L., et al. 2020. β_2 -AR blockade potentiates MEK1/2 inhibitor effect on HNSCC by regulating the Nrf2-mediated defense mechanism. *Cell Death Dis.* 11: 850.



See **p38 α / β MAPK (A-12): sc-7972** for p38 α / β MAPK antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.