

p38 α / β MAPK (A-12): sc-7972



The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: MAPK14 (human) mapping to 6p21.31, MAPK11 (human) mapping to 22q13.33; Mapk14 (mouse) mapping to 17 A3.3, Mapk11 (mouse) mapping to 15 E3.

SOURCE

p38 α / β MAPK (A-12) is a mouse monoclonal antibody raised against amino acids 213-360 of p38 α MAPK14 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p38 α / β MAPK (A-12) is available conjugated to agarose (sc-7972 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7972 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7972 PE), fluorescein (sc-7972 FITC), Alexa Fluor[®] 488 (sc-7972 AF488), Alexa Fluor[®] 546 (sc-7972 AF546), Alexa Fluor[®] 594 (sc-7972 AF594) or Alexa Fluor[®] 647 (sc-7972 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-7972 AF680) or Alexa Fluor[®] 790 (sc-7972 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, p38 α / β MAPK (A-12) is available conjugated to either TRITC (sc-7972 TRITC, 200 μ g/ml) or Alexa Fluor[®] 405 (sc-7972 AF405, 200 μ g/ml), for IF, IHC(P) and FCM.

APPLICATIONS

p38 α / β MAPK (A-12) is recommended for detection of p38 α MAPK14 and p38 β of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

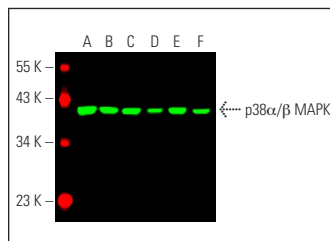
p38 α / β MAPK (A-12) is also recommended for detection of p38 α MAPK14 and p38 β in additional species, including equine and porcine.

Molecular Weight of p38 α / β MAPK: 38 kDa.

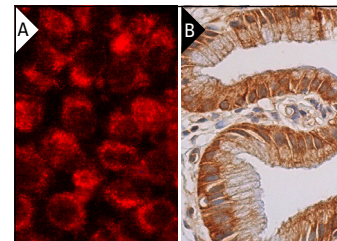
STORAGE

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

DATA



p38 α / β MAPK (A-12) Alexa Fluor[®] 680: sc-7972 AF680. Direct near-infrared western blot analysis of p38 α / β MAPK expression in HL-60 (A), K-562 (B), Jurkat (C), NIH/3T3 (D), RAW 264.7 (E) and MCF7 (F) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Cruz Marker[™] Molecular Weight Standards detected with Cruz Marker[™] MW Tag-Alexa Fluor[®] 790: sc-516731.



p38 α / β MAPK (A-12): sc-7972. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Wang, X., et al. 2000. Inhibition of p38 MAP kinase activity up-regulates multiple MAP kinase pathways and potentiates 1,25-dihydroxyvitamin D₃-induced differentiation of human leukemia HL60 cells. *Exp. Cell Res.* 258: 425-437.
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- Zhang, L., et al. 2018. Porcine parvovirus infection impairs progesterone production in luteal cells through mitogen-activated protein kinases, p53, and mitochondria-mediated apoptosis. *Biol. Reprod.* 98: 558-569.
- Sun, H.N., et al. 2019. Cryptotanshinone induces reactive oxygen species-mediated apoptosis in human rheumatoid arthritis fibroblast-like synoviocytes. *Int. J. Mol. Med.* 43: 1067-1075.
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- Tang, T.L., et al. 2022. Sunitinib induced hepatotoxicity in L02 cells via ROS-MAPKs signaling pathway. *Front. Pharmacol.* 13: 1002142.
- Huang, C.F., et al. 2023. Mitophagy effects of protodioscin on human osteosarcoma cells by inhibition of p38MAPK targeting NIX/LC3 axis. *Cells* 12: 395.

RESEARCH USE

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

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