

p-p38 MAPK (D-8): sc-7973

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/MAPK12 (human) mapping to 22q13.33; Mapk14 (mouse) mapping to 17 A3.3, Mapk11/Mapk12 (mouse) mapping to 15 E3.

SOURCE

p-p38 MAPK (D-8) is a mouse monoclonal antibody raised against Tyr 182 phosphorylated p38 α MAPK of human origin.

PRODUCT

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

p-p38 MAPK (D-8) is available conjugated to agarose (sc-7973 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; and to fluorescein (sc-7973 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

In addition, p-p38 MAPK (D-8) is available conjugated to TRITC (sc-7973 TRITC, 200 μ g/ml), 100 μ g/2 ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-7973 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-p38 MAPK (D-8) is recommended for detection of Tyr 182 phosphorylated p38 α MAPK14, p38 β MAPK11 and p38 γ MAPK12 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-p38 MAPK (D-8) is also recommended for detection of correspondingly phosphorylated p38 α MAPK14, p38 β MAPK11 and p38 γ MAPK12 in additional species, including equine, canine, bovine, porcine and avian.

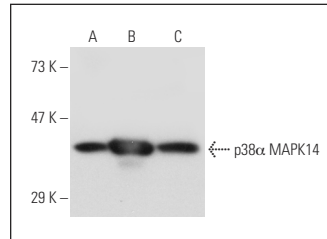
Molecular Weight of p-p38 MAPK: 38 kDa.

Positive Controls: p38 α MAPK14 (m): 293T Lysate: sc-122319, Jurkat whole cell lysate: sc-2204 or A-431 whole cell lysate: sc-2201.

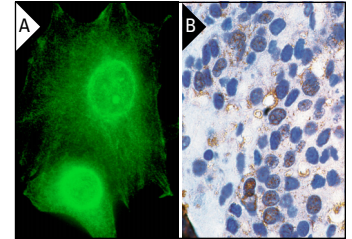
STORAGE

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

DATA



p-p38 MAPK (P-8): sc-7972. Western blot analysis of p38 α MAPK14 expression in non-transfected 293T: sc-117752 (A), mouse p38 α MAPK14 transfected 293T: sc-122319 (B) and Jurkat (C) whole cell lysates.



p-p38 MAPK (D-8): sc-7973. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear localization of activated p38 (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human liver carcinoma tissue showing nuclear localization of activated p38 (B).

SELECT PRODUCT CITATIONS

- Chen, K.D., et al. 1998. Involvement of p38 mitogen-activated protein kinase signaling pathway in the rapid induction of the 78-kDa glucose-regulated protein in 9L rat brain tumor cells. *J. Biol. Chem.* 273: 749-755.
- Jang, S.A., et al. 2016. *Cynanchum wilfordii* radix attenuates liver fat accumulation and damage by suppressing hepatic cyclooxygenase-2 and mitogen-activated protein kinase in mice fed with a high-fat and high-fructose diet. *Nutr. Res.* 36: 914-924.
- Feng, T., et al. 2017. Hepatocyte-specific Smad7 deletion accelerates DEN-induced HCC via activation of STAT3 signaling in mice. *Oncogenesis* 6: e294.
- Li, T., et al. 2018. Ubiquitin-specific protease 4 promotes hepatocellular carcinoma progression via cyclophilin A stabilization and deubiquitination. *Cell Death Dis.* 9: 148.
- Hao, J., et al. 2019. Surfactant protein A induces the pathogenesis of renal fibrosis through binding to calreticulin. *Exp. Ther. Med.* 17: 459-464.
- Chen, L.F., et al. 2020. The NMDA receptor subunit GluN3A regulates synaptic activity-induced and myocyte enhancer factor 2C (MEF2C)-dependent transcription. *J. Biol. Chem.* 295: 8613-8627.
- Al Sabaani, N. 2021. Inhibition of protein kinase R by C16 protects the retinal ganglion cells from hypoxia-induced oxidative stress, inflammation, and apoptosis. *Curr. Eye Res.* 46: 719-730.

RESEARCH USE

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



See **p-p38 MAPK (E-1): sc-166182** for p-p38 MAPK antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.