SANTA CRUZ BIOTECHNOLOGY, INC.

p38α (D-5): sc-398305

SANTA CRUZ BIOTECHNOLOGY

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. p38α, p38β and p38γ, also known as MAPK14, MAPK11 and MAPK12, respectively, 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, p38α, p38β and p38γ 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 phosphoryation 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, Mapk14 (mouse) mapping to 17 A3.3.

SOURCE

p38α (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-31 at the N-terminus of p38α of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398305 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p38α (D-5) is recommended for detection of p38α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p38α (D-5) is also recommended for detection of p38α in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for p38α siRNA (h): sc-29433, p38α siRNA (m): sc-29434, p38α siRNA (r): sc-156091, p38α shRNA Plasmid (h): sc-29433-SH, p38α shRNA Plasmid (m): sc-29434-SH, p38α shRNA Plasmid (r): sc-156091-SH, p38α shRNA (h) Lentiviral Particles: sc-29433-V, p38α shRNA (m) Lentiviral Particles: sc-29434-V and p38α shRNA (r) Lentiviral Particles: sc-156091-V.

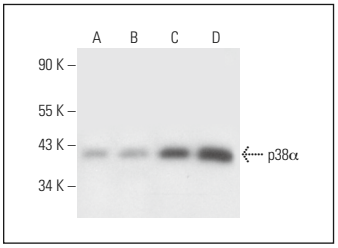
Molecular Weight of p38α: 38 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, KNRK whole cell lysate: sc-2214 or Jurkat whole cell lysate: sc-2204.

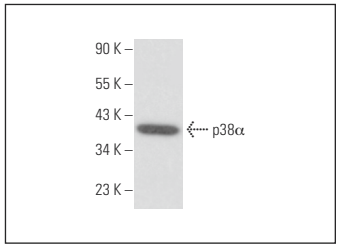
STORAGE

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

DATA



p38α (D-5): sc-398305. Western blot analysis of p38α expression in NIH/3T3 (**A**), KNRK (**B**), Jurkat (**C**) and HL-60 (**D**) whole cell lysates.



p38α (D-5): sc-398305. Western blot analysis of p38α expression in U-937 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Lu, K., et al. 2015. Protective effects of extendin-4 on hypoxia/reoxygenation-induced injury in H9c2 cells. Mol. Med. Rep. 12: 3007-3016.
2. Gu, X., et al. 2016. Protective effect of paeoniflorin on inflammation and apoptosis in the cerebral cortex of a transgenic mouse model of Alzheimer's disease. Mol. Med. Rep. 13: 2247-2252.
3. Song, H.L., et al. 2018. Neuroprotective mechanisms of rutin for spinal cord injury through anti-oxidation and anti-inflammation and inhibition of p38 mitogen activated protein kinase pathway. Neural Regen. Res. 13: 128-134.
4. Chen, P.C., et al. 2018. Anti-metastatic effects of antrodan with and without cisplatin on Lewis lung carcinomas in a mouse xenograft model. Int. J. Mol. Sci. 19: 1565.
5. Gong, X., et al. 2020. Linalool inhibits the growth of human T cell acute lymphoblastic leukemia cells with involvement of the MAPK signaling pathway. Oncol. Lett. 20: 181.
6. Chen, J., et al. 2021. *Salmonella* flagella confer anti-tumor immunological effect via activating Flagellin/TLR5 signalling within tumor microenvironment. Acta Pharm. Sin. B 11: 3165-3177.
7. Rodríguez-Palma, E.J., et al. 2023. Spinal alarmin HMGB1 and the activation of TLR4 lead to chronic stress-induced nociceptive hypersensitivity in rodents. Eur. J. Pharmacol. 952: 175804.

RESEARCH USE

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

CONJUGATES

See **p38α/β (A-12): sc-7972** for p38α/β antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.