

p38 α (N-20): sc-728

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 , p38 β and p38 γ , 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, p38 α , p38 β and p38 γ 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 (K-19) is available as either rabbit (sc-728) or goat (sc-728-G) polyclonal affinity purified antibody raised against a peptide mapping at the N-terminus of p38 α of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-728 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose (sc-728 AC) conjugate for immunoprecipitation, 500 μ g/0.25 ml agarose in 1 ml.

APPLICATIONS

p38 α (N-20) is recommended for detection of p38 α and, to a lesser extent, p38 β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p38 α (N-20) is also recommended for detection of p38 α and, to a lesser extent, p38 β in additional species, including canine, bovine, porcine and avian.

Molecular Weight of p38 α : 38 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, A-431 whole cell lysate: sc-2201 or MCF7 whole cell lysate: sc-2206.

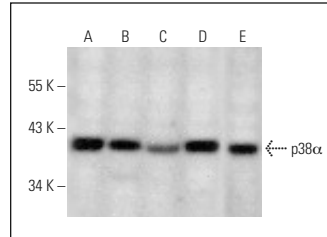
RESEARCH USE

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

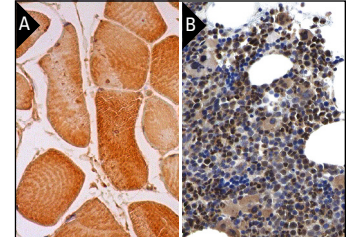
STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



p38 α (N-20)-G: sc-728-G. Western blot analysis of p38 α expression in Jurkat (A), A-431 (B), MCF7 (C), KNRK (D) and HeLa (E) whole cell lysates.



p38 α (N-20)-G: sc-728-G. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing nuclear and cytoplasmic staining of myocytes. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing nuclear and cytoplasmic staining of bone marrow poietic cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

- Shimizu, N., et al. 1998. Activation of mitogen-activated protein kinases and activator protein-1 in myocardial infarction in rats. *Cardiovasc. Res.* 38: 116-124.
- Alcaide, P., et al. 2011. Defining the pathogenicity of creatine deficiency syndrome. *Hum. Mutat.* 32: 282-291.
- Casar, B., et al. 2012. Mxi2 sustains ERK1/2 phosphorylation in the nucleus by preventing ERK1/2 binding to phosphatases. *Biochem. J.* 441: 571-578.
- Chen, S.T., et al. 2012. Recombinant MPT83 derived from *Mycobacterium tuberculosis* induces cytokine production and upregulates the function of mouse macrophages through TLR2. *J. Immunol.* 188: 668-677.
- Wang, K., et al. 2012. NEMO differentially regulates TCR and TNF- α induced NF κ B pathways and has an inhibitory role in TCR-induced NF κ B activation. *Cell. Signal.* 24: 1556-1564.
- Llopis, A., et al. 2012. The stress-activated protein kinases p38 α / β and JNK1/2 cooperate with Chk1 to inhibit mitotic entry upon DNA replication arrest. *Cell Cycle* 11: 3627-3637.
- Lee, S.H., et al. 2013. Cytoprotective effect of dieckol on human endothelial progenitor cells (hEPCs) from oxidative stress-induced apoptosis. *Free Radic. Res.* 47: 526-534.

MONOS
Satisfaction
Guaranteed

Try **p38 α / β (A-12): sc-7972** or **p38 α (F-9): sc-271120**, our highly recommended monoclonal alternatives to p38 α (N-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **p38 α / β (A-12): sc-7972**.