SANTA CRUZ BIOTECHNOLOGY, INC.

p38β (E-20): sc-6187

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: MAPK11/MAPK12 (human) mapping to 22q13.33; Mapk11/Mapk12 (mouse) mapping to 15 E3.

SOURCE

p38β (E-20) is available as either goat (sc-6187) or rabbit (sc-6187-R) polyclonal affinity purified antibody raised against a peptide mapping C-terminus (h) of p38β of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6187 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p38β (E-20) is recommended for detection of p38β and, to a lesser extent, p38γ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), 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).

p38β (E-20) is also recommended for detection of p38β and, to a lesser extent, p38γ in additional species, including equine, canine and bovine.

Molecular Weight of p38β: 41 kDa.

Positive Controls: p38 (h4): 293T Lysate: sc-174918.

RESEARCH USE

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

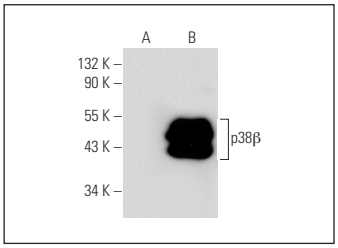
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

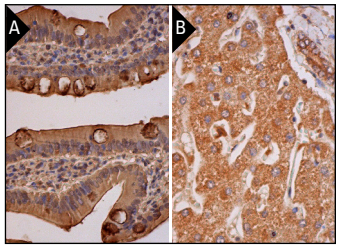
STORAGE

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

DATA



p38β (E-20)-R: sc-6187-R. Western blot analysis of p38β expression in non-transfected: sc-117752 (**A**) and human p38β transfected: sc-174918 (**B**) 293T whole cell lysates.



p38β (E-20): sc-6187. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes and bile duct cells (**B**).

SELECT PRODUCT CITATIONS

1. Waetzig, G.H., et al. 2002. p38 mitogen-activated protein kinase is activated and linked to TNFα signaling in inflammatory bowel disease. J. Immunol. 168: 5342-5351.
2. Kim, J.K., et al. 2006. Estrogen prevents cardiomyocyte apoptosis through inhibition of reactive oxygen species and differential regulation of p38 kinase isoforms. J. Biol. Chem. 281: 6760-6767.
3. Zabalgoitia, M., et al. 2008. Carbon monoxide donors or heme oxygenase 1 (HO-1) overexpression blocks interleukin-18-mediated NFκB-PTEN-dependent human cardiac endothelial cell death. Free Radic. Biol. Med. 44: 284-298.
4. De Alvaro, C., et al. 2008. Nuclear exclusion of forkhead box O and Elk1 and activation of nuclear factor-κB are required for C2C12-RasV12C40 myoblast differentiation. Endocrinology 149: 793-801.
5. Reddy, S., et al. 2012. Dynamic microRNA expression during the transition from right ventricular hypertrophy to failure. Physiol. Genomics 44: 562-575.
6. Abdelfadil, E., et al. 2013. Thymoquinone induces apoptosis in oral cancer cells through p38β inhibition. Am. J. Chin. Med. 41: 683-696.
7. Liu, H., et al. 2014. Mitochondrial p38β and manganese superoxide dismutase interaction mediated by estrogen in cardiomyocytes. PLoS ONE 9: e85272.