SANTA CRUZ BIOTECHNOLOGY, INC.

NP60 (D-10): sc-390601

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. Via their catalytic activity, MAP kinases 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. NP60 (nuclear protein of 60 kDa), also known as glyoxylate reductase 1 homolog, 3-hydroxyisobutyrate dehydrogenase-like protein and cytokine-like nuclear factor N-PAC, is a 553 amino acid nuclear protein that regulates the phosphorylation and activation of p38α in response to stress. There are five isoforms of NP60 that are produced as a result of alternative splicing events.

REFERENCES

1. Seternes, O.M., et al. 2002. Both binding and activation of p38 mitogen-activated protein kinase (MAPK) play essential roles in regulation of the nucleocytoplasmic distribution of MAPK-activated protein kinase 5 by cellular stress. Mol. Cell. Biol. 22: 6931-6945.
2. Roux, P.P. and Blenis, J. 2004. ERK and p38 MAPK-activated protein kinases: a family of protein kinases with diverse biological functions. Microbiol. Mol. Biol. Rev. 68: 320-344.

CHROMOSOMAL LOCATION

Genetic locus: GLYR1 (human) mapping to 16p13.3; Glyr1 (mouse) mapping to 16 A1.

SOURCE

NP60 (D-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 531-550 of NP60 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NP60 (D-10) is available conjugated to agarose (sc-390601 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390601 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390601 PE), fluorescein (sc-390601 FITC), Alexa Fluor® 488 (sc-390601 AF488), Alexa Fluor® 546 (sc-390601 AF546), Alexa Fluor® 594 (sc-390601 AF594) or Alexa Fluor® 647 (sc-390601 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390601 AF680) or Alexa Fluor® 790 (sc-390601 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390601 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

NP60 (D-10) is recommended for detection of NP60 isoforms 1-4 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).

NP60 (D-10) is also recommended for detection of NP60 isoforms 1-4 in additional species, including canine and porcine.

Suitable for use as control antibody for NP60 siRNA (h): sc-93243, NP60 siRNA (m): sc-150041, NP60 shRNA Plasmid (h): sc-93243-SH, NP60 shRNA Plasmid (m): sc-150041-SH, NP60 shRNA (h) Lentiviral Particles: sc-93243-V and NP60 shRNA (m) Lentiviral Particles: sc-150041-V.

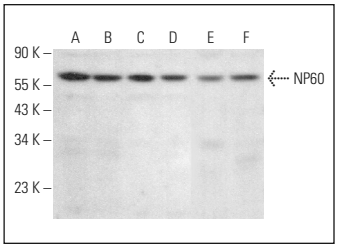
Molecular Weight of NP60: 60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or JAR cell lysate: sc-2276.

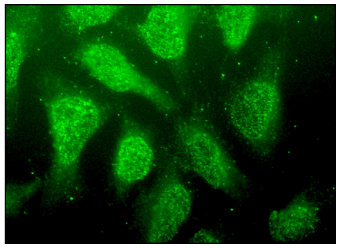
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



NP60 (D-10): sc-390601. Western blot analysis of NP60 expression in HeLa (**A**), Hep G2 (**B**), JAR (**C**), T-47D (**D**), RAW 264.7 (**E**) and NIH/3T3 (**F**) whole cell lysates.



NP60 (D-10): sc-390601. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Yu, S., et al. 2021. Npac is a co-factor of Histone H3K36me3 and regulates transcriptional elongation in mouse embryonic stem cells. Genomics Proteomics Bioinformatics. E-published.

RESEARCH USE

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