SANTA CRUZ BIOTECHNOLOGY, INC.

p22-phox (CS9): sc-130551

BACKGROUND

Mox1 and the glycoprotein gp91-phox are largely related proteins that are essential components of the NADPH oxidase. The superoxide-generating NADPH oxidase is present in phagocytes, neuroepithelial bodies, vascular smooth muscle cells and endothelial cells. It includes a membrane-bound flavocytochrome containing two subunits, gp91-phox and p22-phox, and the cytosolic proteins p47-phox and p67-phox. During activation of the NADPH oxidase, p47-phox and p67-phox migrate to the plasma membrane, where they associate with the flavocytochrome cytochrome b558 to form the active enzyme complex. The p22- and gp91-phox subunits also function as surface O_2 sensors that initiate cellular signaling in response to hypoxic conditions.

CHROMOSOMAL LOCATION

Genetic locus: CYBA (human) mapping to 16q24.3; Cyba (mouse) mapping to 8 E1.

SOURCE

p22-phox (CS9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 165-169 near the C-terminus of p22-phox of human 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.

p22-phox (CS9) is available conjugated to agarose (sc-130551 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-130551 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130551 PE), fluorescein (sc-130551 FITC), Alexa Fluor® 488 (sc-130551 AF488), Alexa Fluor® 546 (sc-130551 AF546), Alexa Fluor® 594 (sc-130551 AF594) or Alexa Fluor® 647 (sc-130551 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-130551 AF680) or Alexa Fluor® 790 (sc-130551 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

p22-phox (CS9) is recommended for detection of p22-phox of 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).

Suitable for use as control antibody for p22-phox siRNA (h): sc-36149, p22-phox siRNA (m): sc-36150, p22-phox siRNA (r): sc-61892, p22-phox shRNA Plasmid (h): sc-36149-SH, p22-phox shRNA Plasmid (m): sc-36150-SH, p22-phox shRNA Plasmid (r): sc-61892-SH, p22-phox shRNA (h) Lentiviral Particles: sc-36149-V, p22-phox shRNA (m) Lentiviral Particles: sc-36150-V and p22-phox shRNA (r) Lentiviral Particles: sc-61892-V.

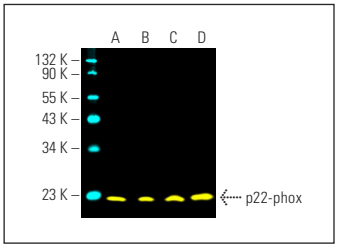
Molecular Weight of p22-phox: 22 kDa.

Positive Controls: NCI-H929 whole cell lysate: sc-364786, THP-1 cell lysate: sc-2238 or human spleen extract: sc-363779.

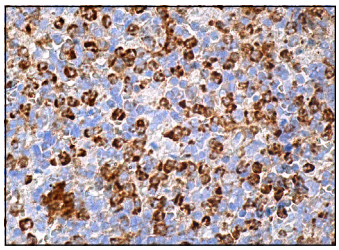
STORAGE

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

DATA



p22-phox (CS9) Alexa Fluor® 488: sc-130551 AF488. Direct fluorescent western blot analysis of p22-phox expression in NCI-H929 (**A**), THP-1 (**B**) and HL-60 (**C**) whole cell lysates and human spleen tissue extract (**D**). Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 647: sc-516791.



p22-phox (CS9): sc-130551. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of subset of cells in white and red pulps.

SELECT PRODUCT CITATIONS

1. von Lohneysen, K., et al. 2008. Mutational analysis reveals distinct features of the Nox4-p22 phox complex. J. Biol. Chem. 283: 35273-35282.
2. Kadir, F.A., et al. 2013. Effect of oral administration of ethanolic extract of *Vitex negundo* on thioacetamide-induced nephrotoxicity in rats. BMC Complement. Altern. Med. 13: 294.
3. Beaumel, S., et al. 2014. Identification of NOX2 regions for normal biosynthesis of cytochrome b558 in phagocytes highlighting essential residues for p22-phox binding. Biochem. J. 464: 425-437.
4. Shen, K., et al. 2016. Cambogin exerts anti-proliferative and pro-apoptotic effects on breast adenocarcinoma through the induction of NADPH oxidase 1 and the alteration of mitochondrial morphology and dynamics. Oncotarget 7: 50596-50611.
5. Serwas, N.K., et al. 2018. CEBPE-mutant specific granule deficiency correlates with aberrant granule organization and substantial proteome alterations in neutrophils. Front. Immunol. 9: 588.
6. Kim, Y.R., et al. 2020. Identification of highly potent and selective inhibitor, TIPTP, of the p22-phox-Rubicon axis as a therapeutic agent for rheumatoid arthritis. Sci. Rep. 10: 4570.
7. Loth, M.K., et al. 2020. A novel interaction of translocator protein 18 kDa (TSPO) with NADPH oxidase in microglia. Mol. Neurobiol. 57: 4467-4487.
8. Wu, Y.H., et al. 2021. Upregulation of miR-210-5p impairs dead cell clearance by macrophages through the inhibition of Sp1-and HSCARG-dependent NADPH oxidase pathway. Free Radic. Biol. Med. 172: 441-450.

RESEARCH USE

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