SANTA CRUZ BIOTECHNOLOGY, INC.

# p22-phox (E-11): sc-271968

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 (E-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 133-159 near the C-terminus of p22-phox 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.

p22-phox (E-11) is available conjugated to agarose (sc-271968 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271968 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271968 PE), fluorescein (sc-271968 FITC), Alexa Fluor® 488 (sc-271968 AF488), Alexa Fluor® 546 (sc-271968 AF546), Alexa Fluor® 594 (sc-271968 AF594) or Alexa Fluor® 647 (sc-271968 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271968 AF680) or Alexa Fluor® 790 (sc-271968 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271968 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

p22-phox (E-11) is recommended for detection of p22-phox 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).

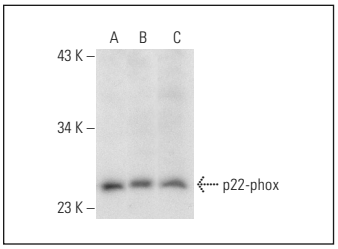
Suitable for use as control antibody for p22-phox siRNA (h): sc-36149, p22-phox siRNA (m): sc-36150, p22-phox siRNA (r): sc-61892, p22-phox shRNA Plasmid (h): sc-36149-SH, p22-phox shRNA Plasmid (m): sc-36150-SH, p22-phox shRNA Plasmid (r): sc-61892-SH, p22-phox shRNA (h) Lentiviral Particles: sc-36149-V,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

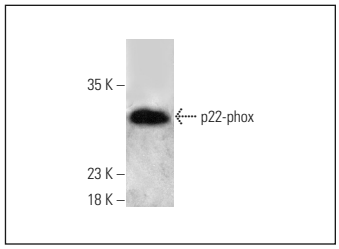
## STORAGE

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

## DATA




p22-phox (E-11): sc-271968. Western blot analysis of p22-phox expression in RAW 264.7 (**A**), THP-1 (**B**) and SK-N-MC (**C**) whole cell lysates.




p22-phox (E-11) HRP: sc-271968 HRP. Direct western blot analysis of p22-phox expression in RAW 264.7 whole cell lysate.

## SELECT PRODUCT CITATIONS


1. Fortuño, A., et al. 2009. Insulin resistance determines phagocytic nicotinamide adenine dinucleotide phosphate oxidase overactivation in metabolic syndrome patients. J. Hypertens. 27: 1420-1430.
2. Li, X.W., et al. 2014. Sequoyitol ameliorates diabetic nephropathy in diabetic rats induced with a high-fat diet and a low dose of streptozotocin. Can. J. Physiol. Pharmacol. 92: 405-417.
3. Choi, H., et al. 2016. LRRC8A channels support TNFα-induced superoxide production by Nox1 which is required for receptor endocytosis. Free Radic. Biol. Med. 101: 413-423.
4. Chakraborti, S., et al. 2017. Role of ADP ribosylation factor6- cytohesin1-phospholipaseD signaling axis in U46619 induced activation of NADPH oxidase in pulmonary artery smooth muscle cell membrane. Arch. Biochem. Biophys. 633: 1-14.
5. Deliyanti, D., et al. 2018. Nrf2 activation is a potential therapeutic approach to attenuate diabetic retinopathy. Invest. Ophthalmol. Vis. Sci. 59: 815-825.
6. Liu, W., et al. 2018. Olfactomedin 4 contributes to hydrogen peroxide-induced NADPH oxidase activation and apoptosis in mouse neutrophils. Am. J. Physiol., Cell Physiol. 315: C494-C501.
7. Ko, J., et al. 2019. Paricalcitol attenuates TGF-β1-induced phenotype transition of human peritoneal mesothelial cells (HPMCs) via modulation of oxidative stress and NLRP3 inflammasome. FASEB J. 33: 3035-3050.
8. Bhat, S.A., et al. 2019. AT2R activation prevents microglia pro-inflammatory activation in a NOX-dependent manner: inhibition of PKC activation and $p47^{phox}$ phosphorylation by PP2A. Mol. Neurobiol. 56: 3005-3023.


## RESEARCH USE

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