

p40-phox (N-20): sc-18252

BACKGROUND

Nicotinamide adenine dinucleotide phosphate (NADPH)-oxidase is a multi-meric enzyme system that mediates electron transport from NADPH in the cytoplasm to molecular oxygen in the phagosome, thereby generating reactive oxidant intermediates. Upon neutrophil stimulation, NADPH-oxidase and other cytosolic elements localize to the cell membrane from the cytosol to form a complex which produces phagocytic oxygen radicals. There are a number of cytosolic proteins that are involved in NADPH-oxidase activation/deactivation, including p47-phox, p67-phox, p40-phox and the small GTP-binding protein, Rac. Activation of NADPH oxidase is accompanied by the phosphorylation of cytosolic components p40-phox, p47-phox and p67-phox. The PKC consensus phosphorylation sites Thr 154 and Ser 315 in p40-phox are phosphorylated during activation of NADPH oxidase. p40-phox can promote oxidase activation by increasing the affinity of p47-phox for NADPH-oxidase. However, p40-phox appears to downregulate oxidase function as well, by competing with an SH3 domain interaction between other essential oxidase components.

CHROMOSOMAL LOCATION

Genetic locus: NCF4 (human) mapping to 22q12.3; Ncf4 (mouse) mapping to 15 E1.

SOURCE

p40-phox (N-20) is available as either goat (sc-18252) or rabbit (sc-18252-R) polyclonal affinity purified antibody raised against a peptide mapping near the N-terminus of p40-phox 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-18252 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p40-phox (N-20) is recommended for detection of p40-phox 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p40-phox (N-20) is also recommended for detection of p40-phox in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for p40-phox siRNA (h): sc-36155, p40-phox siRNA (m): sc-36156, p40-phox shRNA Plasmid (h): sc-36155-SH, p40-phox shRNA Plasmid (m): sc-36156-SH, p40-phox shRNA (h) Lentiviral Particles: sc-36155-V and p40-phox shRNA (m) Lentiviral Particles: sc-36156-V.

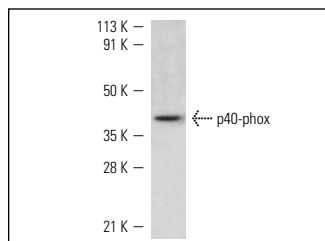
Molecular Weight of p40-phox: 40 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211 or HL-60 whole cell lysate: sc-2209.

STORAGE

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

DATA



p40-phox (N-20): sc-18252. Western blot analysis of p40-phox expression in RAW 264.7 whole cell lysate.

SELECT PRODUCT CITATIONS

- Fang, Q., et al. 2006. Inhibition of NADPH oxidase improves impaired reactivity of pial arterioles during chronic exposure to nicotine. *J. Appl. Physiol.* 100: 631-636.
- Ellson, C.D., et al. 2006. Neutrophils from p40-phox^{-/-} mice exhibit severe defects in NADPH oxidase regulation and oxidant-dependent bacterial killing. *J. Exp. Med.* 203: 1927-1937.
- Sautin, Y.Y., et al. 2007. Adverse effects of the classic antioxidant uric acid in adipocytes: NADPH oxidase-mediated oxidative/nitrosative stress. *Am. J. Physiol., Cell Physiol.* 293: 584-596.
- Keith, K.E., et al. 2009. Delayed association of the NADPH oxidase complex with macrophage vacuoles containing the opportunistic pathogen *Burkholderia cenocepacia*. *Microbiology* 155: 1004-1015.
- Salmen, S., et al. 2010. HIV-1 Nef associates with p22-phox, a component of the NADPH oxidase protein complex. *Cell. Immunol.* 263: 166-171.
- Thakur, S., et al. 2010. Inactivation of adenosine A2A receptor attenuates basal and angiotensin II-induced ROS production by Nox2 in endothelial cells. *J. Biol. Chem.* 285: 40104-40113.
- Li, R.W., et al. 2010. Localized complement activation in the development of protective immunity against *Ostertagia ostertagi* infections in cattle. *Vet. Parasitol.* 174: 247-256.

RESEARCH USE

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


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Try **p40-phox (D-8): sc-48388** or **p40-phox (B-1): sc-48376**, our highly recommended monoclonal alternatives to p40-phox (N-20).