

# p40-phox (H-300): sc-30087

## 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 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at 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.

## APPLICATIONS

p40-phox (H-300) 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 (H-300) 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.

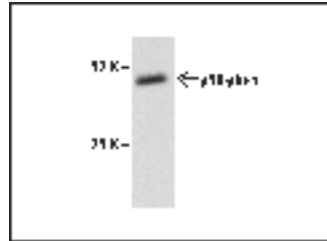
## RESEARCH USE

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

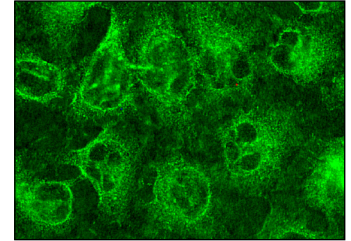
## STORAGE

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

## DATA



p40-phox (H-300): sc-30087. Western blot analysis of p40-phox expression in RAW 264.7 whole cell lysate.



p40-phox (H-300): sc-30087. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## SELECT PRODUCT CITATIONS

- Shoeb, M., et al. 2010. Progesterone-induced reorganisation of NOX-2 components in membrane rafts is critical for sperm functioning in *Capra hircus*. *Andrologia* 42: 356-365.
- Chandrasekhar, K., et al. 2010. Blue light exposure targets NADPH oxidase to plasma membrane and nucleus in wheat coleoptiles. *J. Plant Growth Regul.* 29: 232-241.
- Shoeb, M., et al. 2010. Progesterone-induced reorganisation of NOX-2 components in membrane rafts is critical for sperm functioning in *Capra hircus*. *Andrologia* 42: 356-365.
- Chandrasekhar, A., et al. 2011. Modulation of nicotinamide adenine dinucleotide phosphate oxidase activity through sequential posttranslational modifications of p22 phagocytic oxidase during capacitation and acrosome reaction in goat spermatozoa. *J. Anim. Sci.* 89: 2995-3007.
- Wang, G., et al. 2012. Cutting edge: Slamf8 is a negative regulator of Nox2 activity in macrophages. *J. Immunol.* 188: 5829-5832.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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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 (H-300).