



Nox3 (H-40): sc-67004

BACKGROUND

Nox3 (GP91-3, NADPH oxidase 3) is a plasma membrane-associated enzyme that catalyzes the production of superoxide by a one-electron reduction of oxygen, using NADPH as the electron donor. Nox3 contains six membrane-spanning regions, conserved flavin and pyridine nucleotide-binding sites, and histidines possibly involved in heme ligation. It functions together with p22phox as an enzyme constitutively producing superoxide. Nox3 expression promotes p22phox transport to the plasma membrane and can be inhibited by mutations in the p22phox binding sites (SH3 domains) of p47phox or Nox1. Nox3 localizes to the vestibular and cochlear sensory epithelia and to spiral ganglions and participates in otoconia formation in inner ears, which is required for perception of balance and gravity.

REFERENCES

1. Kikuchi, H., et al. 2000. NADPH oxidase subunit, gp91(phox) homologue, preferentially expressed in human colon epithelial cells. *Gene* 254: 237-243.
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3. Cheng, G., et al. 2004. Nox3 regulation by NOXO1, p47phox, and p67phox. *J. Biol. Chem.* 279: 34250-34255.
4. Banfi, B., et al. 2004. Nox3, a superoxide-generating NADPH oxidase of the inner ear. *J. Biol. Chem.* 279: 46065-46072.
5. Ueno, N., et al. 2005. The NADPH oxidase Nox3 constitutively produces superoxide in a p22phox-dependent manner: its regulation by oxidase organizers and activators. *J. Biol. Chem.* 280: 23328-23339.
6. Ueyama, T., et al. 2006. Involvement of Rac1 in activation of multicomponent Nox1- and Nox3-based NADPH oxidases. *Mol. Cell. Biol.* 26: 2160-2174.
7. Hordijk, P.L. 2006. Regulation of NADPH oxidases: the role of Rac proteins. *Circ. Res.* 98: 453-462.
8. Geiszt, M. 2006. NADPH oxidases: New kids on the block. *Cardiovasc. Res.* 71: 289-299.
9. Ye, S., et al. 2006. Oxidative Stress Mediates the Stimulation of Sympathetic Nerve Activity in the Phenol Renal Injury Model of Hypertension. *Hypertension* 48: 309-315.

CHROMOSOMAL LOCATION

Genetic locus: NOX3 (human) mapping to 6q25.1-q26; Nox3 (mouse) mapping to 17 A1.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

SOURCE

Nox3 (H-40) is a rabbit polyclonal antibody raised against amino acids 111-150 mapping near the N-terminus of Nox3 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

Nox3 (H-40) is recommended for detection of Nox3 of 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).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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