

Nox4 (N-15): sc-21860

BACKGROUND

The superoxide-generating NADPH oxidase 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 O₂ sensors that initiate cellular signaling in response to hypoxic conditions. Nox4 (also known as Renox) is a renal gp91 Phox homolog highly expressed at the site of erythropoietin production in the proximal convoluted tubule epithelial cells of the renal cortex. Nox4 is also expressed in fetal tissues, placenta, glioblastoma and vascular cells. Like gp91 Phox, the enzymatic activity of Nox4 produces superoxide anions. In vascular cells, the addition of Angiotensin II increases Nox4 expression, which suggests a role for Nox4 in vascular oxidative stress response. The gene encoding human Nox4 maps to chromosome 11q14.3.

CHROMOSOMAL LOCATION

Genetic locus: NOX4 (human) mapping to 11q14.3; Nox4 (mouse) mapping to 7 D3.

SOURCE

Nox4 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Nox4 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.

Available as agarose conjugate for immunoprecipitation, sc-21860 AC, 500 µg/0.25 ml agarose in 1 ml.

Blocking peptide available for competition studies, sc-21860 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Nox4 (N-15) is recommended for detection of Nox4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Nox4 (N-15) is also recommended for detection of Nox4 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Nox4 siRNA (h): sc-41586, Nox4 siRNA (m): sc-41587, Nox4 shRNA Plasmid (h): sc-41586-SH, Nox4 shRNA Plasmid (m): sc-41587-SH, Nox4 shRNA (h) Lentiviral Particles: sc-41586-V, Nox4 shRNA (m) Lentiviral Particles: sc-41587-V.

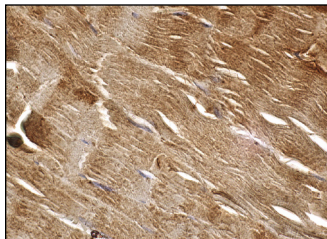
Molecular Weight of Nox4: 70 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237 or mouse placenta extract: sc-364247.

STORAGE

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

DATA



Nox4 (N-15): sc-21860. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Fürst, R., et al. 2005. Atrial natriuretic peptide induces mitogen-activated protein kinase phosphatase-1 in human endothelial cells via Rac1 and NADPH oxidase/Nox2-activation. *Circ. Res.* 96: 43-53.
4. Moriguchi, M., et al. 2010. Transforming growth factor β inducible apoptotic cascade in epithelial cells during rat molar tooth eruptions. *Anat. Sci. Int.* 85: 92-101.
5. Alvarez, E., et al. 2010. Pravastatin counteracts angiotensin II-induced upregulation and activation of NADPH oxidase at plasma membrane of human endothelial cells. *J. Cardiovasc. Pharmacol.* 55: 203-212.
6. Yang, J., et al. 2010. Protein kinase C-dependent NADPH oxidase activation induced by type 1 diabetes in renal medullary thick ascending limb. *Hypertension* 55: 468-473.
7. Kim, H.J., et al. 2010. Roles of NADPH oxidases in cisplatin-induced reactive oxygen species generation and ototoxicity. *J. Neurosci.* 30: 3933-3946.
8. Simone, R.E., et al. 2011. Lycopene inhibits NF κ B-mediated IL-8 expression and changes redox and PPAR γ signalling in cigarette smoke-stimulated macrophages. *PLoS ONE* 6: e19652.
9. Palozza, P., et al. 2011. Lycopene prevention of oxysterol-induced proinflammatory cytokine cascade in human macrophages: inhibition of NF κ B nuclear binding and increase in PPAR γ expression. *J. Nutr. Biochem.* 22: 259-268.

RESEARCH USE

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

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Try **Nox4 (3H2G11): sc-517188**, our highly recommended monoclonal alternative to Nox4 (N-15).