

Nox4 (L-20): sc-55142

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 (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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.

Blocking peptide available for competition studies, sc-55142 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Nox4 (L-20) 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), 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), 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 (L-20) is also recommended for detection of Nox4 in additional species, including equine, canine, 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 and Nox4 shRNA (m) Lentiviral Particles: sc-41587-V.

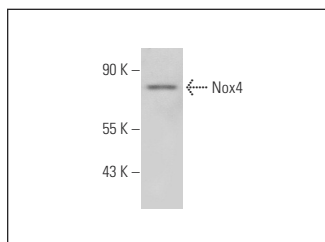
Molecular Weight of Nox4: 70 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214 or SK-N-MC cell lysate: sc-2237.

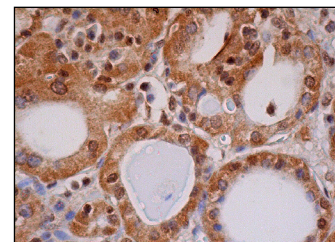
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Nox4 (L-20): sc-55142. Western blot analysis of Nox4 expression in KNRK whole cell lysate.



Nox4 (L-20): sc-55142. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic and nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

- Richard, D., et al. 2009. Docosahexaenoic acid down-regulates endothelial Nox 4 through a sPLA₂ signalling pathway. *Biochem. Biophys. Res. Commun.* 389: 516-522.
- Gao, J., et al. 2013. Hypoxia/oxidative stress alters the pharmacokinetics of CPU86017-RS through mitochondrial dysfunction and NADPH oxidase activation. *Acta Pharmacol. Sin.* 34: 1575-1584.

STORAGE

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

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **Nox4 (3H2G11): sc-517188**, our highly recommended monoclonal alternative to Nox4 (L-20).