

Nox4 (C-3): sc-518092

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.

SOURCE

Nox4 (C-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 382-409 within an internal region of Nox4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Nox4 (C-3) is available conjugated to agarose (sc-518092 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518092 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518092 PE), fluorescein (sc-518092 FITC), Alexa Fluor® 488 (sc-518092 AF488), Alexa Fluor® 546 (sc-518092 AF546), Alexa Fluor® 594 (sc-518092 AF594) or Alexa Fluor® 647 (sc-518092 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518092 AF680) or Alexa Fluor® 790 (sc-518092 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Nox4 (C-3) is recommended for detection of Nox4 of human origin by Western Blotting (starting dilution 1:100, 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).

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

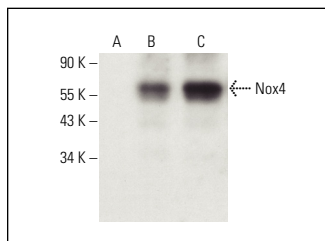
Molecular Weight of Nox4: 70 kDa.

Positive Controls: Nox4 (h2): 293T Lysate: sc-374679.

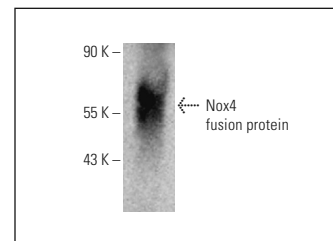
STORAGE

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

DATA



Nox4 (C-3): sc-518092. Western blot analysis of Nox4 expression in non-transfected: sc-117752 (A), human Nox4 transfected: sc-115840 (B) and sc-374679 (C) 293T whole cell lysates. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.



Nox4 (C-3): sc-518092. Western blot analysis of human recombinant Nox4 fusion protein. Detection reagent used: m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM.

SELECT PRODUCT CITATIONS

- Cheng, J., et al. 2020. hsa_circ_0058092 protects against hyperglycemia-induced endothelial progenitor cell damage via miR-217/FOXO3. *Int. J. Mol. Med.* 46: 1146-1154.
- Santra, S., et al. 2020. Expression of type I collagen in response to Isoniazid exposure is indirect and is facilitated by collateral induction of cytochrome P450 2E1: an *in vitro* study. *PLoS ONE* 15: e0236992.
- Cui, W., et al. 2022. Exercise affects the formation and recovery of alcoholic liver disease through the IL-6-p47^{phox} oxidative-stress axis. *Cells* 11: 1305.
- Khalifa, A.A., et al. 2022. Potential cardioprotective effect of octreotide via NOXs mitigation, mitochondrial biogenesis and MAPK/Erk1/2/STAT3/NF-κβ pathway attenuation in isoproterenol-induced myocardial infarction in rats. *Eur. J. Pharmacol.* 925: 174978.
- di Masi, A., et al. 2022. Unraveling the effects of carotenoids accumulation in human papillary thyroid carcinoma. *Antioxidants* 11: 1463.
- Mustafa, N.H., et al. 2022. *Parkia speciosa* Hassk. Empty pod extract prevents cardiomyocyte hypertrophy by inhibiting MAPK and calcineurin-NFATC3 signaling pathways. *Life* 13: 43.
- di Masi, A., et al. 2022. Unraveling the effects of carotenoids accumulation in human papillary thyroid carcinoma. *Antioxidants* 11: 1463.

RESEARCH USE

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

PROTOCOLS

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