

Nox3 (h): 293T Lysate: sc-173365

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.
2. Cheng, G., et al. 2001. Homologs of gp91phox: cloning and tissue expression of Nox3, Nox4, and Nox5. *Gene* 269: 131-140.
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 Rac 1 in activation of multicomponent Nox1- and Nox3-based NADPH oxidases. *Mol. Cell. Biol.* 26: 2160-2174.
7. Hordijk, P.L., et al. 2006. Regulation of NADPH oxidases: the role of Rac proteins. *Circ. Res.* 98: 453-462.
8. Geiszt, M., et al. 2006. NADPH oxidases: New kids on the block. *Cardiovasc. Res.* 71: 289-99.

CHROMOSOMAL LOCATION

Genetic locus: NOX3 (human) mapping to 6q25.3.

PRODUCT

Nox3 (h): 293T Lysate represents a lysate of human Nox3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

Nox3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Nox3 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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