



p22-phox (h): 293T Lysate: sc-114797

BACKGROUND

Mox1 and the glycoprotein gp91-phox are largely related proteins that are essential components of the NADPH oxidase. The superoxide-generating NADPH oxidase is present in phagocytes, neuroepithelial bodies, vascular smooth muscle cells and endothelial cells. It 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.

REFERENCES

1. Henderson, L.M., et al. 1995. The arachidonate-activable, NADPH oxidase-associated H⁺ channel. Evidence that gp91-phox functions as an essential part of the channel. *J. Biol. Chem.* 270: 5909-5916.
2. Ushio-Fukai, M., et al. 1996. p22^{phox} is a critical component of the superoxide-generating NADH/NADPH oxidase system and regulates angiotensin II-induced hypertrophy in vascular smooth muscle cells. *J. Biol. Chem.* 271: 23317-23321.
3. Nisimoto, Y., et al. 1999. The p67^{phox} activation domain regulates electron flow from NADPH to flavin in flavocytochrome b(558). *J. Biol. Chem.* 274: 22999-23005.
4. Archer, S.L., et al. 1999. O₂ sensing is preserved in mice lacking the gp91 phox subunit of NADPH oxidase. *Proc. Natl. Acad. Sci. USA* 96: 7944-7949.
5. Yang, S., et al. 1999. Superoxide generation in transformed B-lymphocytes from patients with severe, malignant osteopetrosis. *Mol. Cell. Biochem.* 199: 15-24.
6. Meyer, J.W., et al. 1999. Identification of a functional leukocyte-type NADPH oxidase in human endothelial cells: a potential atherogenic source of reactive oxygen species. *Endothelium* 7: 11-22.
7. Suh, Y.A., et al. 1999. Cell transformation by the superoxide-generating oxidase Mox1. *Nature* 401: 79-82.
8. Moreno, M.U., et al. 2003. Preliminary characterisation of the promoter of the human p22^{phox} gene: identification of a new polymorphism associated with hypertension. *FEBS Lett.* 542: 27-31.
9. Groemping, Y., et al. 2003. Molecular basis of phosphorylation-induced activation of the NADPH oxidase. *Cell* 113: 343-355.

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.

CHROMOSOMAL LOCATION

Genetic locus: Cyba (human) mapping to 16q24.3.

PRODUCT

p22-phox (h): 293T Lysate represents a lysate of human p22-phox transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

p22-phox (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive p22-phox 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.