

NOXO1 (M-290): sc-292094

BACKGROUND

NADPH oxidase (NOX) proteins include a membrane-bound flavocytochrome containing two subunits (gp91 phox and p22 phox) and the cytosolic proteins p47 phox and p67 phox. NOX activation leads to the formation of a complex that catalyzes the transfer of electrons from NADPH to molecular oxygen, therefore generating reactive oxygen species (ROS). NOXO1 (NADPH oxidase organizer 1), also designated SH3 and PX domain-containing protein 5 and Nox-organizing protein 1, is a 376 amino acid protein that targets NOX to different subcellular compartments and also targets NOX activators to NOX. Interestingly, NOXO1 is required for the synthesis of otoliths, crystalline structures of the inner ear that are involved in the perception of gravity. There are four isoforms of NOXO1 that are produced as a result of alternative splicing events.

REFERENCES

- Geiszt, M., Lekstrom, K., Witta, J. and Leto, T.L. 2003. Proteins homologous to p47^{phox} and p67^{phox} support superoxide production by NADPH oxidase 1 in colon epithelial cells. *J. Biol. Chem.* 278: 20006-20012.
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- Bánfi, B., Clark, R.A., Steger, K. and Krause, K.H. 2003. Two novel proteins activate superoxide generation by the NADPH oxidase NOX1. *J. Biol. Chem.* 278: 3510-3513.
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- Bánfi, B., Malgrange, B., Knisz, J., Steger, K., Dubois-Dauphin, M. and Krause, K.H. 2004. NOX3, a superoxide-generating NADPH oxidase of the inner ear. *J. Biol. Chem.* 279: 46065-46072.
- Cheng, G. and Lambeth, J.D. 2005. Alternative mRNA splice forms of NOXO1: differential tissue expression and regulation of Nox1 and Nox3. *Gene* 356: 118-126.

CHROMOSOMAL LOCATION

Genetic locus: Nox1 (mouse) mapping to 17 A3.3.

SOURCE

NOXO1 (M-290) is a rabbit polyclonal antibody raised against amino acids 50-339 mapping at the C-terminus of NOXO1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

NOXO1 (M-290) is recommended for detection of NOXO1 of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NOXO1 siRNA (m): sc-75950, NOXO1 shRNA Plasmid (m): sc-75950-SH and NOXO1 shRNA (m) Lentiviral Particles: sc-75950-V.

Molecular Weight of human NOXO1 isoforms $\gamma/\delta/\beta/\alpha$: 41 kDa.

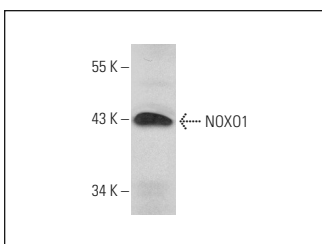
Molecular Weight of mouse NOXO1 isoforms 1/2: 39/27 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NOXO1 (M-290): sc-292094. Western blot analysis of NOXO1 expression in NIH/3T3 whole cell lysate.

RESEARCH USE

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

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Try **NOXO1 (F-5): sc-390927**, our highly recommended monoclonal alternative to NOXO1 (M-290).