SANTA CRUZ BIOTECHNOLOGY, INC.

NOXO1 (F-5): sc-390927

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, cystalline 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.

CHROMOSOMAL LOCATION

Genetic locus: NOXO1 (human) mapping to 16p13.3; Noxo1 (mouse) mapping to 17 A3.3.

SOURCE

NOXO1 (F-5) is a mouse monoclonal antibody raised against amino acids 50-339 mapping at the C-terminus of NOXO1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NOXO1 (F-5) is available conjugated to agarose (sc-390927 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390927 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390927 PE), fluorescein (sc-390927 FITC), Alexa Fluor® 488 (sc-390927 AF488), Alexa Fluor® 546 (sc-390927 AF546), Alexa Fluor® 594 (sc-390927 AF594) or Alexa Fluor® 647 (sc-390927 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390927 AF680) or Alexa Fluor® 790 (sc-390927 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

NOXO1 (F-5) is recommended for detection of NOXO1 of mouse, rat and 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 NOXO1 siRNA (h): sc-75949, NOXO1 siRNA (m): sc-75950, NOXO1 shRNA Plasmid (h): sc-75949-SH, NOXO1 shRNA Plasmid (m): sc-75950-SH, NOXO1 shRNA (h) Lentiviral Particles: sc-75949-V and NOXO1 shRNA (m) Lentiviral Particles: sc-75950-V.

Molecular Weight of human NOXO1 isoforms γ/δ/β/α: 41 kDa.

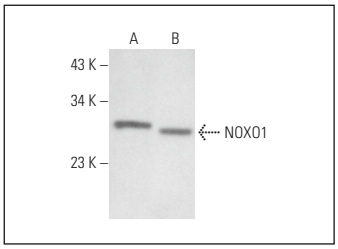
Molecular Weight of mouse NOXO1 isoforms 1/2: 39/27 kDa.

Positive Controls: C6 whole cell lysate: sc-364373 or F9 cell lysate: sc-2245.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



NOXO1 (F-5): sc-390927. Western blot analysis of NOXO1 expression in F9 (**A**) and C6 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chen, G.P., et al. 2020. Geranylgeranyl transferase-I knockout inhibits oxidative injury of vascular smooth muscle cells and attenuates diabetes-accelerated atherosclerosis. J. Diabetes Res. 2020: 7574245.
2. Haq, S., et al. 2021. CYLD destabilizes NOXO1 protein by promoting ubiquitination and regulates prostate cancer progression. Cancer Lett. 525: 146-157.
3. Sevilla-Montero, J., et al. 2022. Cigarette smoke induces pulmonary arterial dysfunction through an imbalance in the redox status of the soluble guanylyl cyclase. Free Radic. Biol. Med. 193: 9-22.
4. Liu, Y., et al. 2023. A predicted structure of NADPH oxidase 1 identifies key components of ROS generation and strategies for inhibition. PLoS ONE 18: e0285206.

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.

PROTOCOLS

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