SANTA CRUZ BIOTECHNOLOGY, INC.

Mox1 (C-10): sc-518023

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 O_2 sensors that initiate cellular signaling in response to hypoxic conditions. Mox1 and gp91 contain identical C-terminal sequence identity, yet they have distinct expression patterns. gp91 phox is expressed in eosinophils, neutrophils, monocytes, and B-lymphocytes, whereas Mox1 is predominantly detected in the colon, and low expression is also detected in the uterus and prostate. Mox1 is also upregulated in vascular smooth-muscle cells in response to PDGF stimulation, which collectively indicates that Mox1 may function analogously to gp91 phox, yet regulate the NADPH superoxide production in non-phagocytic cells.

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.

CHROMOSOMAL LOCATION

Genetic locus: NOX1 (human) mapping to Xq22.1; Nox1 (mouse) mapping to X E3.

SOURCE

Mox1 (C-10) is a mouse monoclonal antibody raised against amino acids 121-195 of Mox1 of human 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.

Mox1 (C-10) is available conjugated to agarose (sc-518023 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518023 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518023 PE), fluorescein (sc-518023 FITC), Alexa Fluor® 488 (sc-518023 AF488), Alexa Fluor® 546 (sc-518023 AF546), Alexa Fluor® 594 (sc-518023 AF594) or Alexa Fluor® 647 (sc-518023 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518023 AF680) or Alexa Fluor® 790 (sc-518023 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

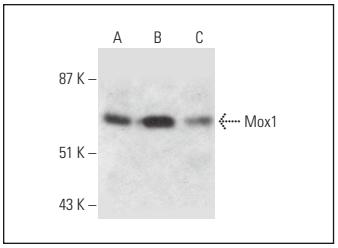
Mox1 (C-10) is recommended for detection of Mox1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Mox1 siRNA (h): sc-43939, Mox1 siRNA (m): sc-43940, Mox1 shRNA Plasmid (h): sc-43939-SH, Mox1 shRNA Plasmid (m): sc-43940-SH, Mox1 shRNA (h) Lentiviral Particles: sc-43939-V and Mox1 shRNA (m) Lentiviral Particles: sc-43940-V.

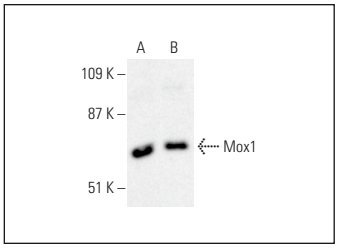
Molecular Weight of Mox1 isoforms: 65/59/22 kDa.

Postive Controls: RT-4 whole cell lysate: sc-364257, JC whole cell lysate: sc-394968 or WEHI-231 whole cell lysate: sc-2213.

DATA



Mox1 (C-10): sc-518023. Western blot analysis of Mox1 expression in JC (**A**), AT-3 (**B**) and WEHI-231 (**C**) whole cell lysates.



Mox1 (C-10): sc-518023. Western blot analysis of Mox1 expression in 293 (**A**) and RT-4 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. He, J., et al. 2019. 3,3'-diindolylmethane mitigates lipopolysaccharide-induced acute kidney injury in mice by inhibiting NOX-mediated oxidative stress and the apoptosis of renal tubular epithelial cells. Mol. Med. Rep. 19: 5115-5122.
2. Kim, Y.R., et al. 2020. Identification of highly potent and selective inhibitor, TIPTP, of the p22phox-Rubicon axis as a therapeutic agent for rheumatoid arthritis. Sci. Rep. 10: 4570.
3. Santana-Garrido, Á., et al. 2021. NADPH oxidase-induced oxidative stress in the eyes of hypertensive rats. Mol. Vis. 27: 161-178.
4. Santana-Garrido, Á., et al. 2022. Hypertension secondary to nitric oxide depletion produces oxidative imbalance and inflammatory/fibrotic outcomes in the cornea of C57BL/6 mice. J. Physiol. Biochem. 78: 915-932.
5. Byun, H.S., et al. 2023. Rubiarbonol B induces RIPK1-dependent necroptosis via NOX1-derived ROS production. Cell Biol. Toxicol. 39: 1677-1696.

STORAGE

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