SANTA CRUZ BIOTECHNOLOGY, INC.

gp91-phox (H-60): sc-20782

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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 complex expresses 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. 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 possess distinct expression patterns. gp91-phox expresses in eosinophils, neutrophils, monocytes, and B-lymphocytes, whereas Mox1 is predominantly detected in the colon, with low expression in the uterus and prostate. Vascular smooth-muscle cells exhibit upregulation of Mox1 in response to PDGF stimulation, which indicates that Mox1 may function analogously to gp91-phox, yet regulate the NADPH superoxide production in non-phagocytic cells.

CHROMOSOMAL LOCATION

Genetic locus: CYBB (human) mapping to Xp11.4; Cybb (mouse) mapping to X A1.1.

SOURCE

gp91-phox (H-60) is a rabbit polyclonal antibody raised against amino acids 231-290 of gp91-phox of human origin.

PRODUCT

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

Available as agarose conjugate for immunoprecipitation, sc-20782 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

gp91-phox (H-60) is recommended for detection of gp91-phox of human and, to a lesser extent, 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 gp91-phox siRNA (h): sc-35503, gp91-phox siRNA (m): sc-35504, gp91-phox shRNA Plasmid (h): sc-35503-SH, gp91-phox shRNA Plasmid (m): sc-35504-SH, gp91-phox shRNA (h) Lentiviral Particles: sc-35503-V and gp91-phox shRNA (m) Lentiviral Particles: sc-35504-V.

Molecular Weight of gp91-phox: 60/91 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, COLO 320DM cell lysate: sc-2226 or OV-90 whole cell lysate: sc-364191.

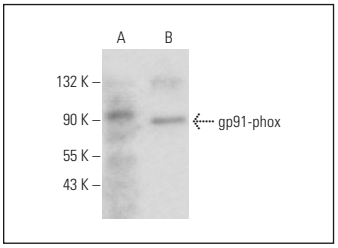
RESEARCH USE

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

STORAGE

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

DATA



gp91-phox (H-60): sc-20782. Western blot analysis of gp91-phox expression in mouse lymphnode (**A**) and rat pituitary (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Nediani, C., et al. 2007. NADPH oxidase-dependent redox signaling in human heart failure: relationship between the left and right ventricle. J. Mol. Cell. Cardiol. 42: 826-834.
2. Farjo, K.M., et al. 2012. Retinol-binding protein 4 induces inflammation in human endothelial cells by an NADPH oxidase- and nuclear factor κ B-dependent and retinol-independent mechanism. Mol. Cell. Biol. 32: 5103-5115.
3. Xie, W., et al. 2012. Effect of exercise training on nitric oxide and superoxide/H_2O_2 signaling pathways in collateral-dependent porcine coronary arterioles. J. Appl. Physiol. 112: 1546-1555.
4. Chi, P.L., et al. 2012. Heme oxygenase 1 attenuates interleukin-1β-induced cytosolic phospholipase A2 expression via a decrease in NADPH oxidase/reactive oxygen species/activator protein 1 activation in rheumatoid arthritis synovial fibroblasts. Arthritis Rheum. 64: 2114-2125.
5. Hsieh, H.L., et al. 2012. NADPH oxidase-mediated redox signal contributes to lipoteichoic acid-induced MMP-9 upregulation in brain astrocytes. J. Neuroinflammation 9: 110.
6. Du, J., et al. 2013. Crucial roles of Nox2-derived oxidative stress in deteriorating the function of insulin receptors and endothelium in dietary obesity of middle-aged mice. Br. J. Pharmacol. 170: 1064-1077.
7. Hsu, C.K., et al. 2015. Mevastatin ameliorates sphingosine 1-phosphate-induced COX-2/PGE2-dependent cell migration via FoxO1 and CREB phosphorylation and translocation. Br. J. Pharmacol. 172: 5360-5376.