SANTA CRUZ BIOTECHNOLOGY, INC.

gp91-phox (CL5): sc-130549

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, with low expression 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.

CHROMOSOMAL LOCATION

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

SOURCE

gp91-phox (CL5) is a mouse monoclonal antibody raised against amino acids 135-147 of detergent-solubilized gp91-phox 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.

APPLICATIONS

gp91-phox (CL5) is recommended for detection of gp91-phox of mouse, rat and human 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); may cross-react with Gelsolin.

Suitable for use as control antibody for gp91-phox siRNA (h): sc-35503, gp91-phox siRNA (m): sc-35504, gp91-phox siRNA (r): sc-61838, gp91-phox shRNA Plasmid (h): sc-35503-SH, gp91-phox shRNA Plasmid (m): sc-35504-SH, gp91-phox shRNA Plasmid (r): sc-61838-SH, gp91-phox shRNA (h) Lentiviral Particles: sc-35503-V, gp91-phox shRNA (m) Lentiviral Particles: sc-35504-V and gp91-phox shRNA (r) Lentiviral Particles: sc-61838-V.

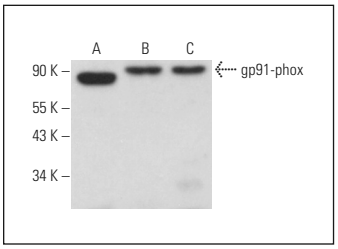
Molecular Weight of gp91-phox: 60/91 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, RAW 309 Cr.1 cell lysate: sc-3814 or COLO 205 whole cell lysate: sc-364177.

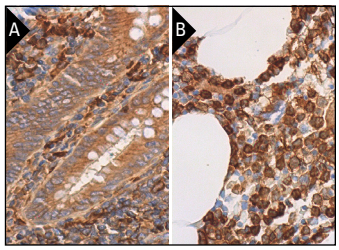
STORAGE

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

DATA



gp91-phox (CL5): sc-130549. Western blot analysis of gp91-phox expression in COLO 205 (**A**), RAW 309 Cr.1 (**B**) and RAW 264.7 (**C**) whole cell lysates.



gp91-phox (CL5): sc-130549. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells and lymphoid cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing membrane and cytoplasmic staining of subset of hematopoietic cells (**B**).

SELECT PRODUCT CITATIONS

1. Daud, A.I., et al. 1993. Identification of SV40 large T-antigen-associated proteins in cardiomyocytes from transgenic mice. Am. J. Physiol. 264: H1693-H1700.
2. Fraga-Silva, R.A., et al. 2013. Angiotensin-converting enzyme 2 activation improves endothelial function. Hypertension 61: 1233-1238.
3. Diebold, B.A., et al. 2019. Guidelines for the detection of NADPH oxidases by immunoblot and RT-qPCR. Methods Mol. Biol. 1982: 191-229.
4. Cui, C., et al. 2019. Vitamin D receptor activation regulates microglia polarization and oxidative stress in spontaneously hypertensive rats and Angiotensin II-exposed microglial cells: role of Renin-Angiotensin system. Redox Biol. 26: 101295.
5. Lewis, C.V., et al. 2019. Distinct redox signalling following macrophage activation influences profibrotic activity. J. Immunol. Res. 2019: 1278301.
6. Yang, Q., et al. 2019. Blockade of c-Src within the paraventricular nucleus attenuates inflammatory cytokines and oxidative stress in the mechanism of the TLR4 signal pathway in salt-induced hypertension. Neurosci. Bull. E-published.
7. Blancas-Galicia, L., et al. 2020. Genetic, immunological, and clinical features of the first Mexican cohort of patients with chronic granulomatous disease. J. Clin. Immunol. E-published.

RESEARCH USE

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

CONJUGATES

See **gp91-phox (54.1): sc-130543** for gp91-phox antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.