SANTA CRUZ BIOTECHNOLOGY, INC.

gp91-phox (K-15): sc-5826

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.

CHROMOSOMAL LOCATION

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

SOURCE

gp91-phox (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-5826 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

gp91-phox (K-15) 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), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). gp91-phox (K-15) is also recommended for detection of gp91-phox in additional species, including equine, canine, bovine and porcine.

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.

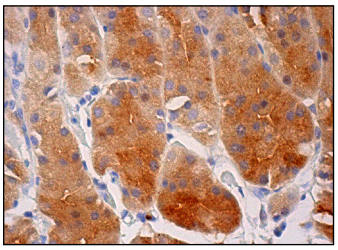
Molecular Weight of gp91-phox: 60/91 kDa.

Positive Controls: A-10 cell lysate: sc-3806 or Hep G2 cell lysate: sc-2227.

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 (K-15): sc-5826. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Maack, C., et al. 2003. Oxygen free radical release in human failing myocardium is associated with increased activity of Rac1-GTPase and represents a target for statin treatment. Circulation 108: 1567-1574.
2. Kim, M.J., et al. 2005. Immunohistochemical study of p47-phox and gp91-Phox distributions in rat brain. Brain Res. 1040: 178-186.
3. Trebichavsky, I., et al. 2006. Attenuated aroA *Salmonella enterica* serovar *Typhimurium* does not induce inflammatory response and early protection of gnotobiotic pigs against parental virulent LT2 strain. Vaccine 24: 4285-4289.
4. Vos, M.D. and Clark, G.J. 2006. RASSF family proteins and Ras transformation. Methods Enzymol. 407: 311-322.
5. Díaz-Cruz, A., et al. 2007. Adrenaline stimulates H_2O_2 generation in liver via NADPH oxidase. Free Radic. Res. 41: 663-672.
6. Pinel-Marie, M.L., et al. 2009. Aryl hydrocarbon receptor-dependent induction of the NADPH oxidase subunit NCF1/p47 phox expression leading to priming of human macrophage oxidative burst. Free Radic. Biol. Med. 47: 825-834.
7. Gao, J., et al. 2013. Hypoxia/oxidative stress alters the pharmacokinetics of CPU86017-RS through mitochondrial dysfunction and NADPH oxidase activation. Acta Pharmacol. Sin. 34: 1575-1584.

RESEARCH USE

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