SANTA CRUZ BIOTECHNOLOGY, INC.

p47phox (A-7): sc-17844

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The heredity chronic granulomatous disease (CGF) has been linked to mutations in p47phox and p67-phox. The cytosolic proteins p47phox and p67-phox, also designated neutrophil cytosol factor (NCF)1 and NCF2, respectively, are required for activation of the superoxide-producing NADPH oxidase in neutrophils and other phagocytic cells. During activation of the NADPH oxidase, p47phox and p67-phox migrate to the plasma membrane where they associate with cytochrome b558 and the small G protein Rac to form the functional enzyme complex. Both p47phox and p67-phox contain two Src homology 3 (SH3) domains. The C-terminal SH3 domain of p67-phox has been shown to interact with the proline-rich domain of p47phox, suggesting that p47phox may faciliate the transport of p67-phox to the membrane.

CHROMOSOMAL LOCATION

Genetic locus: NCF1 (human) mapping to 7q11.23; Ncf1 (mouse) mapping to 5 G2.

SOURCE

p47phox (A-7) is a mouse monoclonal antibody raised against amino acids 196-390 of p47phox 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.

p47phox (A-7) is available conjugated to agarose (sc-17844 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-17844 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17844 PE), fluorescein (sc-17844 FITC), Alexa Fluor® 488 (sc-17844 AF488), Alexa Fluor® 546 (sc-17844 AF546), Alexa Fluor® 594 (sc-17844 AF594) or Alexa Fluor® 647 (sc-17844 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17844 AF680) or Alexa Fluor® 790 (sc-17844 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

p47phox (A-7) is recommended for detection of p47phox of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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), 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 1:30-1:3,000).

Suitable for use as control antibody for p47phox siRNA (h): sc-29422, p47phox siRNA (m): sc-36157, p47phox siRNA (r): sc-45918, p47phox shRNA Plasmid (h): sc-29422-SH, p47phox shRNA Plasmid (m): sc-36157-SH, p47phox shRNA Plasmid (r): sc-45918-SH, p47phox shRNA (h) Lentiviral Particles: sc-29422-V, p47phox shRNA (m) Lentiviral Particles: sc-36157-V and p47phox shRNA (r) Lentiviral Particles: sc-45918-V.

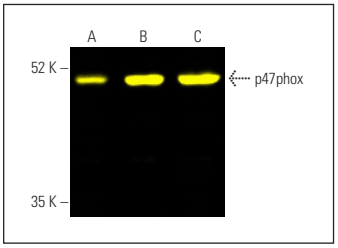
Molecular Weight of p47phox: 47 kDa.

Positive Controls: Daudi cell lysate: sc-2415, Ramos cell lysate: sc-2216 or Raji whole cell lysate: sc-364236.

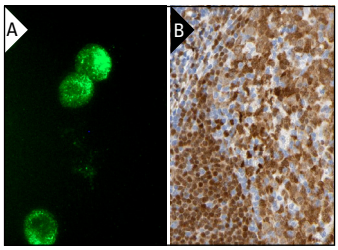
STORAGE

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

DATA



p47phox (A-7) Alexa Fluor® 488: sc-17844 AF488. Direct fluorescent western blot analysis of p47phox expression in Daudi (**A**), Ramos (**B**) and Raji (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



p47phox (A-7): sc-17844. Immunofluorescence staining of methanol-fixed HL-60 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear and cytoplasmic staining of follicle and non-follicle cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Sakihama, T., et al. 1991. Monoclonal IgGs from an autoimmune MRL/Mp-lpr/lpr mouse induce an interleukin-3-dependent myeloid cell line to produce tumor necrosis factor α and interleukin-6. Cell. Immunol. 132: 1-9.
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. Bagam, P., et al. 2021. *In vitro* study of the role of FOXO transcription factors in regulating cigarette smoke extract-induced autophagy. Cell Biol. Toxicol. 37: 531-553.
4. Cui, W., et al. 2022. Exercise affects the formation and recovery of alcoholic liver disease through the IL-6-p47^{phox} oxidative-stress axis. Cells 11: 1305.
5. Guidarelli, A., et al. 2023. ERO1α primes the ryanodine receptor to respond to arsenite with concentration dependent Ca^{2+} release sequentially triggering two different mechanisms of ROS formation. Chem. Biol. Interact. 383: 110694.
6. Shi, G., et al. 2024. A potential mechanism clue to the periodic storm from microglia activation and progressive neuron damage induced by paraquat exposure. Environ. Toxicol. 39: 1874-1888.
7. Ghosh, S., et al. 2025. Oxidative stress-driven enhanced iron production and scavenging through Ferroportin reorientation worsens anemia in antimony-resistant *Leishmania donovani* infection. PLoS Pathog. 21: e1012858.

RESEARCH USE

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