

p47phox (D-10): sc-17845



The Power to Question

BACKGROUND

The hereditary 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 facilitate 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 (D-10) is a mouse monoclonal antibody raised against amino acids 196-390 of p47phox of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p47phox (D-10) is available conjugated to agarose (sc-17845 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17845 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17845 PE), fluorescein (sc-17845 FITC), Alexa Fluor® 488 (sc-17845 AF488), Alexa Fluor® 546 (sc-17845 AF546), Alexa Fluor® 594 (sc-17845 AF594) or Alexa Fluor® 647 (sc-17845 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17845 AF680) or Alexa Fluor® 790 (sc-17845 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

p47phox (D-10) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

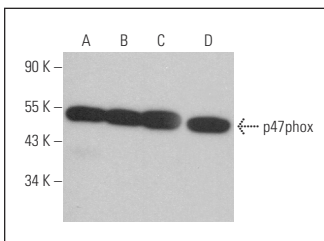
Molecular Weight of p47phox: 47 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, THP-1 cell lysate: sc-2238 or RAW 264.7 whole cell lysate: sc-2211.

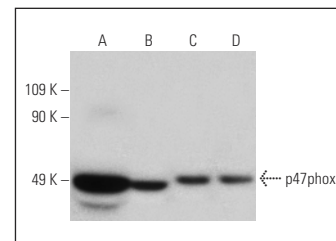
STORAGE

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

DATA



p47phox (D-10): sc-17845. Western blot analysis of p47phox expression in Ramos (A), Raji (B), NAMALWA (C) and U-698-M (D) whole cell lysates.



p47phox (D-10): sc-17845. Western blot analysis of p47phox expression in HL-60 (A), THP-1 (B), RAW 264.7 (C) and J774A.1 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Jackson, S.H., et al. 2004. T cells express a phagocyte-type NADPH oxidase that is activated after T cell receptor stimulation. *Nat. Immunol.* 5: 818-827.
- Sareila, O., et al. 2013. Identification of a region in p47phox/NCF1 crucial for phagocytic NADPH oxidase (NOX2) activation. *J. Leukoc. Biol.* 93: 427-435.
- Noubade, R., et al. 2014. NLRP3 negatively regulates reactive oxygen species during host defence and autoimmunity. *Nature* 509: 235-239.
- Sareila, O., et al. 2015. Direct comparison of a natural loss-of-function single nucleotide polymorphism with a targeted deletion in the Ncf1 gene reveals different phenotypes. *PLoS ONE* 10: e0141974.
- Ding, Y., et al. 2016. The lectin Siglec-G inhibits dendritic cell cross-presentation by impairing MHC class I-peptide complex formation. *Nat. Immunol.* 17: 1167-1175.
- Bhardwaj, V., et al. 2017. Activation of NADPH oxidases leads to DNA damage in esophageal cells. *Sci. Rep.* 7: 9956.
- Liu, W., et al. 2018. Olfactomedin 4 contributes to hydrogen peroxide-induced NADPH oxidase activation and apoptosis in mouse neutrophils. *Am. J. Physiol., Cell Physiol.* 315: C494-C501.
- Li, Y., et al. 2019. NADPH oxidase 2 inhibitors CPP11G and CPP11H attenuate endothelial cell inflammation & vessel dysfunction and restore mouse hind-limb flow. *Redox Biol.* 22: 101143.
- Hu, D., et al. 2020. Age-related changes in mineralocorticoid receptors in rat hearts. *Mol. Med. Rep.* 22: 1859-1867.
- Li, K., et al. 2021. Reduced intracellular chloride concentration impairs angiogenesis by inhibiting oxidative stress-mediated VEGFR2 activation. *Acta Pharmacol. Sin.* 42: 560-572.

RESEARCH USE

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