

p67-phox (D-6): sc-374510



The Power to Question

BACKGROUND

The hereditary disease chronic granulomatous disease (CGD) has been linked to mutations in p47-phox and p67-phox. The cytosolic proteins p47-phox and p67-phox, also designated neutrophil cytosol factor 1 (NCF1) 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, p47-phox 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 p47-phox 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 p47-phox, suggesting that p47-phox may facilitate the transport of p67-phox to the membrane.

CHROMOSOMAL LOCATION

Genetic locus: NCF2 (human) mapping to 1q25.3; Ncf2 (mouse) mapping to 1 G3.

SOURCE

p67-phox (D-6) is a mouse monoclonal antibody raised against amino acids 1-300 of p67-phox 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.

p67-phox (D-6) is available conjugated to agarose (sc-374510 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374510 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374510 PE), fluorescein (sc-374510 FITC), Alexa Fluor® 488 (sc-374510 AF488), Alexa Fluor® 546 (sc-374510 AF546), Alexa Fluor® 594 (sc-374510 AF594) or Alexa Fluor® 647 (sc-374510 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374510 AF680) or Alexa Fluor® 790 (sc-374510 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

p67-phox (D-6) is recommended for detection of p67-phox of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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).

Suitable for use as control antibody for p67-phox siRNA (h): sc-36163, p67-phox siRNA (m): sc-36164, p67-phox shRNA Plasmid (h): sc-36163-SH, p67-phox shRNA Plasmid (m): sc-36164-SH, p67-phox shRNA (h) Lentiviral Particles: sc-36163-V and p67-phox shRNA (m) Lentiviral Particles: sc-36164-V.

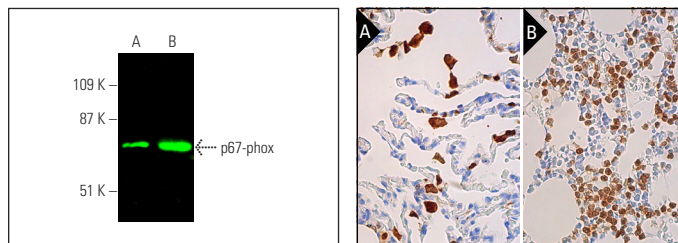
Molecular Weight of p67-phox: 67 kDa.

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

STORAGE

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

DATA



p67-phox (D-6): sc-374510. Near-infrared western blot analysis of p67-phox expression in THP-1 (A) and DMSO-treated HL-60 (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

p67-phox (D-6): sc-374510. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic staining of macrophages (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of subset of hematopoietic cells (B).

SELECT PRODUCT CITATIONS

- Wada, T., et al. 2013. Rapid detection of intracellular p47-phox and p67-phox by flow cytometry; useful screening tests for chronic granulomatous disease. *J. Clin. Immunol.* 33: 857-864.
- Lin, H.T., et al. 2015. An assessment of the effects of ectopic gp91phox expression in XCGD iPSC-derived neutrophils. *Mol. Ther. Methods Clin. Dev.* 2: 15046.
- Kulkarni, M., et al. 2016. Clinical, immunological, and molecular findings of patients with p47-phox defect chronic granulomatous disease (CGD) in Indian families. *J. Clin. Immunol.* 36: 774-784.
- Yan, J., et al. 2017. An inflammatory bowel disease-risk variant in INAVA decreases pattern recognition receptor-induced outcomes. *J. Clin. Invest.* 127: 2192-2205.
- Tsuboi, T., et al. 2018. Administration of L-arginine plus L-citrulline or L-citrulline alone successfully retarded endothelial senescence. *PLoS ONE* 13: e0192252.
- Diebold, B.A., et al. 2019. Guidelines for the detection of NADPH oxidases by immunoblot and RT-qPCR. *Methods Mol. Biol.* 1982: 191-229.
- Sui, Y., et al. 2019. NADPH oxidase is a primary target for antioxidant effects by inorganic nitrite in lipopolysaccharide-induced oxidative stress in mice and in macrophage cells. *Nitric Oxide* 89: 46-53.
- 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.* 40: 475-493.
- Hu, D., et al. 2020. Age-related changes in mineralocorticoid receptors in rat hearts. *Mol. Med. Rep.* 22: 1859-1867.

RESEARCH USE

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