SANTA CRUZ BIOTECHNOLOGY, INC.

p47-phox (F-15): sc-23492

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The Power to Question

BACKGROUND

The heredity disease chronic granulomatous disease (CGF) has been linked to mutations in p47-phox and p67-phox. The cytosolic proteins p47-phox 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, 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 doamin of p67-phox has been shown to interact with the proline rich domain of p47-phox, suggesting that p47-phox may faciliate the transport of p67-phox to the membrane.

REFERENCES

1. Lomax, K.J., et al. 1989. Recombinant 47-kilodalton cytosol factor restores NADPH oxidase in chronic granulomatous disease. Science 245: 409-412.
2. Heyworth, P.G., et al. 1991. Neutrophil nicotinamide adenine dinucleotide phosphate oxidase assembly. Translocation of p47-phox and p67-phox requires interaction between p47-phox and cytochrome b558. J. Clin. Invest. 87: 352-356.
3. Kenney, R.T., et al. 1993. Characterization of the p67-phox gene: genomic organization and restriction fragment length polymorphism analysis for prenatal diagnosis in chronic granulomatous disease. Blood 82: 3739-3744.
4. Finan, P., et al. 1994. An SH3 domain and proline-rich sequence mediate an interaction between two components of the phagocyte NADPH oxidase complex. J. Biol. Chem. 269: 13752-13755.
5. Gorlach, A., et al. 1997. A p47-phox pseudogene carries the most common mutation causing p47-phox-deficient chronic granulomatous disease. J. Clin. Invest. 100: 1907-1918.

CHROMOSOMAL LOCATION

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

SOURCE

p47-phox (F-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of p47-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-23492 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

p47-phox (F-15) is recommended for detection of p47-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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

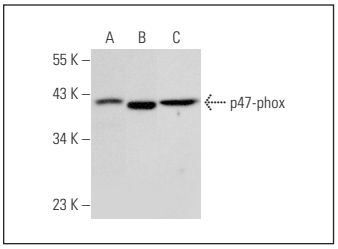
p47-phox (F-15) is also recommended for detection of p47-phox in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for p47-phox siRNA (h): sc-29422, p47-phox siRNA (m): sc-36157, p47-phox shRNA Plasmid (h): sc-29422-SH, p47-phox shRNA Plasmid (m): sc-36157-SH, p47-phox shRNA (h) Lentiviral Particles: sc-29422-V and p47-phox shRNA (m) Lentiviral Particles: sc-36157-V .

Molecular Weight of p47-phox: 47 kDa.

Positive Controls: HT-29 whole cell lysate: sc-364232, THP-1 cell lysate: sc-2238 or U-937 cell lysate: sc-2239.

DATA



p47-phox (F-15): sc-23492. Western blot analysis of p47-phox expression in HT-29 (**A**), THP-1 (**B**) and U-937 (**C**) whole cell lysates.

SELECT PRODUT CITATIONS

1. Kim, M.J., et al. 2005. Immunohistochemical study of p47-Phox and gp91-Phox distributions in rat brain. Brain Res. 1040: 178-186.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.