

p40-phox (h2): 293T Lysate: sc-129386

BACKGROUND

Nicotinamide adenine dinucleotide phosphate (NADPH)-oxidase is a multi-meric enzyme system that mediates electron transport from NADPH in the cytoplasm to molecular oxygen in the phagosome, thereby generating reactive oxidant intermediates. Upon neutrophil stimulation, NADPH-oxidase and other cytosolic elements localize to the cell membrane from the cytosol to form a complex which produces phagocytic oxygen radicals. There are a number of cytosolic proteins that are involved in NADPH-oxidase activation/deactivation, including p47-phox, p67-phox, p40-phox and the small GTP-binding protein, Rac. Activation of NADPH oxidase is accompanied by the phosphorylation of cytosolic components p40-phox, p47-phox and p67-phox. The PKC consensus phosphorylation sites Thr 154 and Ser 315 in p40-phox are phosphorylated during activation of NADPH oxidase. p40-phox can promote oxidase activation by increasing the affinity of p47-phox for NADPH-oxidase. However, p40-phox appears to downregulate oxidase function as well, by competing with an SH3 domain interaction between other essential oxidase components.

REFERENCES

1. Sathiyamoorthy, M., et al. 1997. p40-phox downregulates NADPH oxidase activity through interactions with its SH3 domain. *J. Biol. Chem.* 272: 9141-9146.
2. Bouin, A.P., et al. 1998. p40-phox is phosphorylated on Threonine 154 and Serine 315 during activation of the phagocyte NADPH oxidase. Implication of a protein kinase C-type kinase in the phosphorylation process. *J. Biol. Chem.* 273: 30097-30103.
3. Someya, A., et al. 1999. Phosphorylation of p40-phox during activation of neutrophil NADPH oxidase. *J. Leukoc. Biol.* 66: 851-887.
4. Cross, A.R. 2000. p40-phox participates in the activation of NADPH oxidase by increasing the affinity of p47-phox for flavocytochrome b₅₅₈. *Biochem. J.* 349: 113-117.
5. Wientjes, F.B., et al. 2001. The NADPH oxidase components p47-phox and p40-phox bind to Moesin through their PX domain. *Biochem. Biophys. Res. Commun.* 289: 382-388.
6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 601488. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. LocusLink Report (LocusID: 4689). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: NCF4 (human) mapping to 22q12.3.

PRODUCT

p40-phox (h2): 293T Lysate represents a lysate of human p40-phox transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

p40-phox (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive p40-phox antibodies. Recommended use: 10-20 µl per lane.

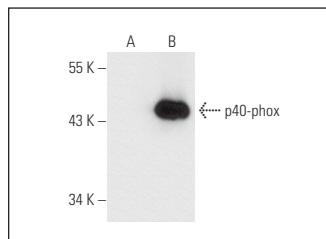
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

p40-phox (D-8): sc-48388 is recommended as a positive control antibody for Western Blot analysis of enhanced human p40-phox expression in p40-phox transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

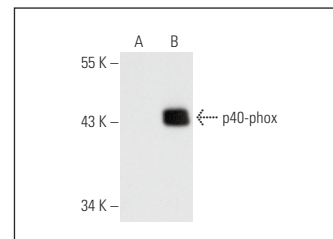
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



p40-phox (D-8): sc-48388. Western blot analysis of p40-phox expression in non-transfected: sc-117752 (A) and human p40-phox transfected: sc-129386 (B) 293T whole cell lysates.



p40-phox (B-1): sc-48376. Western blot analysis of p40-phox expression in non-transfected: sc-117752 (A) and human p40-phox transfected: sc-129386 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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