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p67phox Antibody

Store at -20C
#3923

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 67	Source/Isotype: Rabbit	UniProt ID: #P19878	Entrez-Gene Id: 4688
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Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

p67phox Antibody detects endogenous levels of total p67phox protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala25 of human p67phox. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The phagocytic NADPH oxidase is a multiprotein enzyme that catalyzes the reduction of oxygen to superoxide in response to pathogenic invasion. The NADPH oxidase consists of 6 subunits, including the membrane-bound p91 phox and p22 phox heterodimers (also known as cytochrome b558), the cytosolic complex of p40phox, p47phox and p67phox, and the small GTPase Rac2. Activation of NADPH oxidase is initiated by cytosolic complex phosphorylation, which induces a conformational change that leads to the translocation of the cytosolic complex to the membrane and formation of an active enzyme with cytochrome b558 (1). Defects in p47phox, often resulting from recombination between p47phox and a nearby homologous pseudogene, cause chronic granulomatous disease (2-4). Elevated oxidative stress due to increased myocardial NADPH oxidase activity may be a contributing factor in heart failure (5,6).

p67phox appears to coordinate assembly of NADPH oxidase as it associates with multiple subunits as well as the α subunit of heterotrimeric G proteins (7). Mutations in the corresponding p67phox gene are also associated with a form of autosomal recessive chronic granulomatous disease (8).

Background References

1. Babior, B.M. (1999) *Blood* 93, 1464-76.
2. Noack, D. et al. (2001) *Blood* 97, 305-11.
3. Görlach, A. et al. (1997) *J Clin Invest* 100, 1907-18.
4. Chanock, S.J. et al. (2000) *Blood Cells Mol Dis* 26, 37-46.
5. Heymes, C. et al. (2003) *J Am Coll Cardiol* 41, 2164-71.
6. Doerries, C. et al. (2007) *Circ Res* 100, 894-903.
7. Marty, C. et al. (2006) *Mol Cell Biol* 26, 5190-200.
8. Leto, T.L. et al. (1990) *Science* 248, 727-30.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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