Revision 1

Store at -20C

#4312

p47phox Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	47	Rabbit	#P14598	653361

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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

p47phox Antibody detects endogenous levels of total p47phox protein.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg292 of human p47phox. Antibodies are purified by 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).

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.

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 **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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Limited Uses

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