

NOX4 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP52013

Product Information

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|--------------------------|------------------------|
| Application | WB |
| Primary Accession | Q9NPH5 |
| Reactivity | Human, Mouse, Rat |
| Host | Rabbit |
| Clonality | Polyclonal |
| Calculated MW | 66932 |

Additional Information

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|---------------------------|---|
| Gene ID | 50507 |
| Other Names | NADPH oxidase 4, 163-, Kidney oxidase-1, KOX-1, Kidney superoxide-producing NADPH oxidase, Renal NAD(P)H-oxidase, NOX4, RENOX |
| Target/Specificity | KLH-conjugated synthetic peptide encompassing a sequence within the N-term region of human NOX4. The exact sequence is proprietary. |
| Dilution | WB~~1:1000 |
| Format | 0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50% |
| Storage | Store at -20 °C.Stable for 12 months from date of receipt |

Protein Information

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| Name | NOX4 |
| Synonyms | RENOX |
| Function | NADPH oxidase that catalyzes predominantly the reduction of oxygen to H ₂ O ₂ (PubMed: 14966267 , PubMed: 15356101 , PubMed: 15927447 , PubMed: 21343298 , PubMed: 25062272). Can also catalyze to a smaller extent, the reduction of oxygen to superoxide (PubMed: 10869423 , PubMed: 11032835 , PubMed: 15155719 , PubMed: 15572675 , PubMed: 15927447 , PubMed: 16019190 , PubMed: 16179589 , PubMed: 16230378 , PubMed: 16324151 , PubMed: 25062272). May function as an oxygen sensor regulating the KCNK3/TASK-1 potassium channel and HIF1A activity (PubMed: 16019190). May regulate insulin signaling cascade (PubMed: 14966267). May play a role in apoptosis, bone resorption and lipopolysaccharide-mediated activation of NFκB (PubMed: 15356101 , PubMed: 15572675). May produce superoxide in the nucleus and play a role in regulating gene expression upon cell stimulation (PubMed: 16324151). |

Promotes ferroptosis, reactive oxygen species production and reduced glutathione (GSH) levels by activating NLRP3 inflammasome activation and cytokine release (PubMed:[39909992](#)).

Cellular Location

Cytoplasm. Endoplasmic reticulum membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Cell junction, focal adhesion {ECO:0000250 | UniProtKB:Q924V1}. Nucleus [Isoform 3]: Cytoplasm. Cytoplasm, perinuclear region [Isoform 6]: Cytoplasm. Cytoplasm, perinuclear region

Tissue Location

Expressed by distal tubular cells in kidney cortex and in endothelial cells (at protein level). Widely expressed. Strongly expressed in kidney and to a lower extent in heart, adipocytes, hepatoma, endothelial cells, skeletal muscle, brain, several brain tumor cell lines and airway epithelial cells

Background

Constitutive NADPH oxidase which generates superoxide intracellularly upon formation of a complex with CYBA/p22phox. Regulates signaling cascades probably through phosphatases inhibition. May function as an oxygen sensor regulating the KCNK3/TASK-1 potassium channel and HIF1A activity. May regulate insulin signaling cascade. May play a role in apoptosis, bone resorption and lipolysaccharide-mediated activation of NFkB. May produce superoxide in the nucleus and play a role in regulating gene expression upon cell stimulation. Isoform 3 is not functional. Isoform 4 displays an increased activity. Isoform 5 and isoform 6 display reduced activity.

References

- Geiszt M., et al. Proc. Natl. Acad. Sci. U.S.A. 97:8010-8014(2000).
Cheng G., et al. Gene 269:131-140(2001).
Shiose A., et al. J. Biol. Chem. 276:1417-1423(2001).
Schwarzer C., et al. J. Biol. Chem. 279:36454-36461(2004).
Goyal P., et al. Biochem. Biophys. Res. Commun. 329:32-39(2005).

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