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NADPH oxidase 4 Rabbit pAb

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Catalog # AP52323

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q9NPH5
Reactivity	Rat, Human, Mouse
Predicted	Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	66932
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Nox-4
Epitope Specificity	81-180/578
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Endoplasmic reticulum membrane; Multi-pass membrane protein. Cell junction, focal adhesion. Cell membrane. Note=May localize to plasma membrane and focal adhesions.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Nox4 is a renal gp91-phox homolog highly expressed at the site of erythropoietin production in the proximal convoluted tubule epithelial cells of the renal cortex. Nox4 is also expressed in fetal tissues, placenta, glioblastoma and vascular cells. Like gp91-phox, the enzymatic activity of Nox4 produces superoxide anions. In vascular cells, the addition of angiotensin II increases Nox4 expression, which suggests a role for Nox-4 in vascular oxidative stress response.

Additional Information

Gene ID	50507
Other Names	NADPH oxidase 4, 1.6.3.1, Kidney oxidase-1, KOX-1, Kidney superoxide-producing NADPH oxidase, Renal NAD(P)H-oxidase, NOX4, RENOX
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1 g/Test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	NOX4
Synonyms	RENOX
Function	NADPH oxidase that catalyzes predominantly the reduction of oxygen to H2O2 (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 lipolysaccharide-mediated activation of NFKB (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

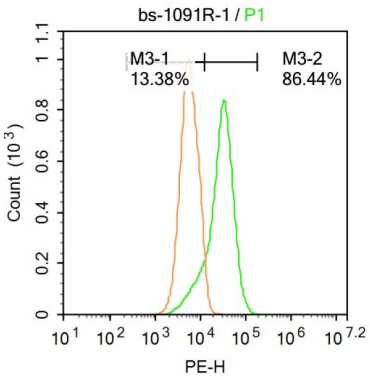
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References

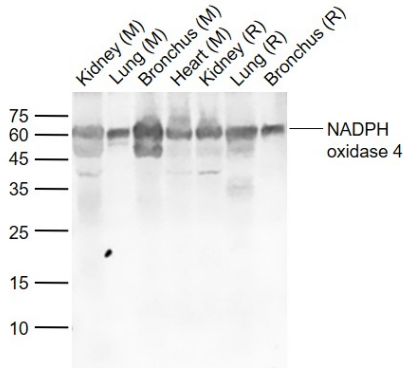
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Yang S.,et al.J. Biol. Chem. 276:5452-5458(2001).
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Images

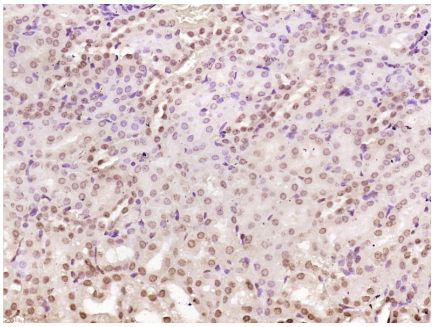
Blank control: Raji.
Primary Antibody (green line): Rabbit Anti-NADPH oxidase 4 antibody (AP52323)
Dilution: 1 µg /10^6 cells;
Isotype Control Antibody (orange line): Rabbit IgG .
Secondary Antibody : Goat anti-rabbit IgG-PE



Dilution: 1 µg /test.
Protocol
The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with PBST for 20 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.



Sample:
Lane 1: Kidney (Mouse) Lysate at 40 ug
Lane 2: Lung (Mouse) Lysate at 40 ug
Lane 3: Bronchus (Mouse) Lysate at 40 ug
Lane 4: Heart (Mouse) Lysate at 40 ug
Lane 5: Kidney (Rat) Lysate at 40 ug
Lane 6: Lung (Rat) Lysate at 40 ug
Lane 7: Bronchus (Rat) Lysate at 40 ug
Primary: Anti-NADPH oxidase 4 (AP52323) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 64 kD
Observed band size: 62 kD



Paraformaldehyde-fixed, paraffin embedded (Mouse kidney); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (NADPH oxidase 4) Polyclonal Antibody, Unconjugated (AP52323) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.