10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Rabbit Anti-NADPH oxidase 4 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP52323

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q9JHI8
Reactivity	Human, Mouse, Rat, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	66519
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.
SIMILARITY	Contains 1 FAD-binding FR-type domain.Contains 1 ferric oxidoreductase domain.
SUBUNIT	Interacts with, relocalizes and stabilizes CYBA/p22phox. Interacts with TLR4. Interacts with protein disulfide isomerase.
Post-translational modifications	N-glycosylation is required for the function (By similarity).
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	50490
Other Names	AI64821; NADPH oxidase 4; Kidney oxidase-1; KOX-1; Kidney superoxide-producing NADPH oxidase; Renal NAD(P)H-oxidase; Superoxide-generating NADPH oxidase 4; Nox4; Renox
Target/Specificity	EXpressed in brain, in all layers of the cerebellum, in pyramidal cells of the Ammon horn and in Purkinje cells (at protein level). Expressed in osteoclasts,

	leukocytes, kidney, liver and lung.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100,IF=1:100-500,Flow-Cyt=1 μg/Test,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
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 (By similarity). Can also catalyze to a smaller extent, the reduction of oxygen to superoxide (PubMed:10869423, PubMed:11098048, PubMed:15638999). May function as an oxygen sensor regulating the KCNK3/TASK-1 potassium channel and HIF1A activity (By similarity). May regulate insulin signaling cascade (By similarity). May play a role in apoptosis, bone resorption and lipolysaccharide- mediated activation of NFKB (By similarity). May produce superoxide in the nucleus and play a role in regulating gene expression upon cell stimulation (By similarity). Promotes ferroptosis, reactive oxygen species production and reduced glutathione (GSH) levels by activating NLRP3 inflammasome activation and cytokine release (By similarity).
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:Q9NPH5}. Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:Q9NPH5}; Multi- pass membrane protein. Cell membrane {ECO:0000250|UniProtKB:Q9NPH5}; Multi-pass membrane protein. Cell junction, focal adhesion {ECO:0000250|UniProtKB:Q924V1}. Nucleus {ECO:0000250|UniProtKB:Q9NPH5}
Tissue Location	EXpressed in brain, in all layers of the cerebellum, in pyramidal cells of the Ammon horn and in Purkinje cells (at protein level). Expressed in osteoclasts, leukocytes, kidney, liver and lung.

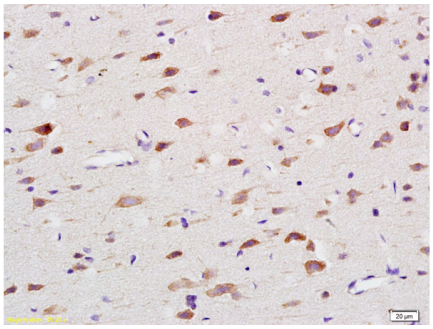
Background

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.

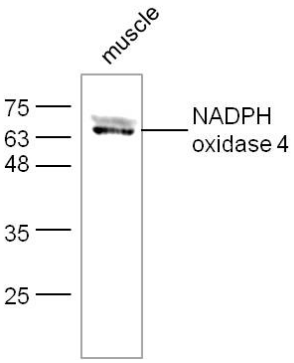
References

Geiszt M.,et al.Proc. Natl. Acad. Sci. U.S.A. 97:8010-8014(2000).
Shiose A.,et al.J. Biol. Chem. 276:1417-1423(2001).
Yang S.,et al.J. Biol. Chem. 276:5452-5458(2001).
Banfi B.,et al.Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases.
Carninci P.,et al.Science 309:1559-1563(2005).

Images



Formalin-fixed and paraffin embedded rat brain labeled with Anti-Nox4/NADH Polyclonal Antibody, Unconjugated (AP52323) at 1:200 followed by conjugation to the secondary antibody and DAB staining.



Mouse muscle lysates probed with Rabbit Anti-NADPH oxidase 4 Polyclonal Antibody, Unconjugated (AP52323) at 1:300 overnight at 4˚C. Followed by conjugation to secondary antibody at 1:500 for 90 min at 37˚C.