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NOX2 Rabbit pAb

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Catalog # AP52079

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P04839
Reactivity	Human, Mouse, Rat
Predicted	Chicken, Dog, Pig, Horse, Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	65336
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human NOX2
Epitope Specificity	501-570/570
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	Membrane.
SIMILARITY	Contains 1 FAD-binding FR-type domain. Contains 1 ferric oxidoreductase domain.
Post-translational modifications	Glycosylated.
DISEASE	Defects in CYBB are a cause of chronic granulomatous disease X-linked (XCGD) [MIM:306400]. Chronic granulomatous disease is a genetically heterogeneous disorder characterized by the inability of neutrophils and phagocytes to kill microbes that they have ingested. Patients suffer from life-threatening bacterial/fungal infections.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	NOX2/gp91phox is a critical component of the membrane-bound oxidase of phagocytes that generates superoxide. It is the terminal component of a respiratory chain that transfers single electrons from cytoplasmic NADPH across the plasma membrane to molecular oxygen on the exterior. It also functions as a voltage-gated proton channel that mediates the H(+) currents of resting phagocytes. It participates in the regulation of cellular pH and is blocked by zinc. Defects in CYBB are a cause of X-linked chronic granulomatous disease (X-CGD). X-CGD is characterized by the failure of activated phagocytes to generate superoxide. Patients suffer from life-threatening bacterial/fungal infections.

Additional Information

Gene ID	1536
Other Names	NADPH oxidase 2, 1.6.3.-, CGD91-phox, Cytochrome b(558) subunit beta,

	Cytochrome b558 subunit beta, Cytochrome b-245 heavy chain, Heme-binding membrane glycoprotein gp91phox, Neutrophil cytochrome b 91 kDa polypeptide, Superoxide-generating NADPH oxidase heavy chain subunit, gp91-1, gp91-phox, p22 phagocyte B-cytochrome, CYBB (HGNC:2578), NOX2
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
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	CYBB (HGNC:2578)
Synonyms	NOX2
Function	Catalytic subunit of the phagocyte NADPH oxidase complex that mediates the transfer of electrons from cytosolic NADPH to O2 to produce the superoxide anion (O2(-)) (PubMed:15338276, PubMed:36241643, PubMed:36413210, PubMed:38355798). In the activated complex, electrons are first transferred from NADPH to flavin adenine dinucleotide (FAD) and subsequently transferred via two heme molecules to molecular oxygen, producing superoxide through an outer-sphere reaction (Probable) (PubMed:38355798). Activation of the NADPH oxidase complex is initiated by the assembly of cytosolic subunits of the NADPH oxidase complex with the core NADPH oxidase complex to form a complex at the plasma membrane or phagosomal membrane (PubMed:19028840, PubMed:38355798). This activation process is initiated by phosphorylation dependent binding of the cytosolic NCF1/p47-phox subunit to the C-terminus of CYBA/p22-phox (By similarity). NADPH oxidase complex assembly is impaired through interaction with NRROS (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein. Note=As unassembled monomer may localize to the endoplasmic reticulum
Tissue Location	Detected in neutrophils (at protein level).

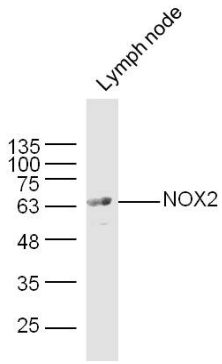
Background

NOX2/gp91phox is a critical component of the membrane-bound oxidase of phagocytes that generates superoxide. It is the terminal component of a respiratory chain that transfers single electrons from cytoplasmic NADPH across the plasma membrane to molecular oxygen on the exterior. It also functions as a voltage-gated proton channel that mediates the H(+) currents of resting phagocytes. It participates in the regulation of cellular pH and is blocked by zinc. Defects in CYBB are a cause of X-linked chronic granulomatous disease (X-CGD). X-CGD is characterized by the failure of activated phagocytes to generate superoxide. Patients suffer from life-threatening bacterial/fungal infections.

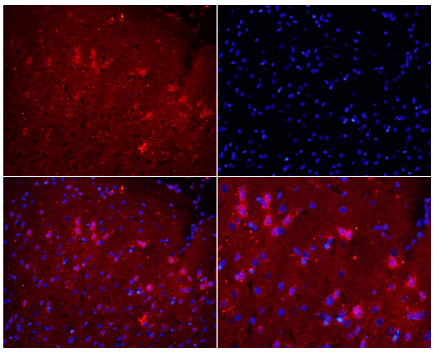
References

Royer-Pokora B.,et al.Nature 322:32-38(1986).
Jirapongsananuruk O.,et al.Clin. Immunol. 104:73-76(2002).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Dinauer M.C.,et al.Nature 327:717-720(1987).

Images



Sample: Lymph node (Mouse) Lysate at 40 ug
Primary: Anti-NOX2 (AP52079) at 1/300 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 65 kD
Observed band size: 65 kD



Tissue/cell: rat brain tissue;4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-NOX2 Polyclonal Antibody, Unconjugated(AP52079) 1:200, overnight at 4°C; The secondary antibody was Goat Anti-Rabbit IgG, Cy3 conjugated(AP52079-Cy3)used at 1:200 dilution for 40 minutes at 37°C. DAPI(5ug/ml,blue,C-0033) was used to stain the cell nuclei