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Anti-NOX2/gp91phox antibody

Catalog # ABO10057

Product Information

Application	WB, E
Primary Accession	P04839
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for NOX2/gp91phox detection. Tested with WB, Direct ELISA in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	1536
Other Names	Cytochrome b-245 heavy chain, 1.-.-.-, CGD91-phox, Cytochrome b(558) subunit beta, Cytochrome b558 subunit beta, Heme-binding membrane glycoprotein gp91phox, NADPH oxidase 2, Neutrophil cytochrome b 91 kDa polypeptide, Superoxide-generating NADPH oxidase heavy chain subunit, gp91-1, gp91-phox, p22 phagocyte B-cytochrome, CYBB, NOX2
Calculated MW	65336
Application Details	Western blot, 0.1-0.5 □g/ml Direct ELISA, 0.1-0.5 □g/ml
Subcellular Localization	Cell membrane; Multi-pass membrane protein.
Tissue Specificity	Detected in neutrophils (at protein level).
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg NaN_3.
Immunogen	E. coli-derived human NOX2/gp91phox recombinant protein (Position: F416-D500).
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C; for one year. After r˚Constitution, at 4˚C; for one month. It˚Can also be aliquotted and stored frozen at -20˚C; for a longer time. Avoid repeated freezing and thawing.

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(NADPH OXIDASE 2), also called CYBB(CYTOCHROME b(-245), BETA SUBUNIT), p91-PHOX or GP91-1, is a human gene encoding a glycoprotein. NOX2 is an essential component of phagocytic NADPH-oxidase, a membrane-bound enzyme complex that generates large quantities of microbicidal superoxide and other oxidants upon activation. It is mapped on Xp11.4. NOX2 assembled on DC phagosomes in a gp91-phox subunit-dependent manner, and that reactive oxygen species were produced in a more sustained manner in immature DC phagosomes than in macrophage phagosomes. As a major player in innate immune responses in neutrophils, NOX2 is also involved in adaptive immunity through its activity in DCs. In heart cells, physiologic stretch rapidly activates reduced-form NOX2 to produce reactive oxygen species (ROS) in a process dependent on microtubules (X-ROS signaling).

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