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Cytochrome b245 Light Chain Rabbit pAb

Catalog # AP97346

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P13498
Other Accession	P13498
Reactivity	Human
Predicted	Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	21013
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CK18 Cytochrome b245 Light Chain/p22phox
Epitope Specificity	21-120/195
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the p22phox family.
SUBUNIT	Composed of a heavy chain (beta) and a light chain (alpha). Interacts with SH3PXD2A (By similarity). Interacts with DUOX1, DUOX2 and TPO. Interacts with NOX3 and NOX4. Interacts with calprotectin (S100A8/9).
Post-translational modifications	The heme prosthetic group could be coordinated with residues of the light chain, the heavy chain, or both, and it is possible that more than one heme is present per cytochrome b-245. [PTM] Phosphorylation at Thr-147 enhances NADPH oxidase activity by promoting p47phox binding (By similarity).
DISEASE	Granulomatous disease, chronic, cytochrome-b-negative, autosomal recessive (ARCGD) [MIM:233690]: A disorder characterized by the inability of neutrophils and phagocytes to kill microbes that they have ingested. Patients suffer from life-threatening bacterial/fungal infections. Note=The disease is caused by mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Mox1 and the glycoprotein gp91-phox are largely related proteins that are essential components of the NADPH oxidase. The superoxide-generating NADPH oxidase is present in phagocytes, neuroepithelial bodies, vascular smooth muscle cells and endothelial cells. It includes a membrane-bound flavocytochrome containing two subunits, gp91-phox and p22-phox, and the cytosolic proteins p47-phox and p67-phox. During activation of the NADPH oxidase, p47-phox and p67-phox migrate to the plasma membrane, where they associate with the flavocytochrome cytochrome b558 to form the active enzyme complex. The p22- and gp91-phox subunits also function as surface O2 sensors that initiate cellular signaling in response to hypoxic conditions.

Additional Information

Gene ID	1535
Other Names	CGD4; p22-PHOX; b558; nmf333; p22phox; Phox; CY24A_HUMAN; CYBA; Cytochrome b(558) alpha chain; Cytochrome b558 subunit alpha; Neutrophil cytochrome b 22 kDa polypeptide; Superoxide-generating NADPH oxidase light chain subunit; p22 phagocyte B-cytochrome; p22-phox (p22phox); CY24A_MOUSE; CY24A_RAT; cytochrome b-245 alpha chain; cytochrome b-245, alpha polypeptide; flavocytochrome b-558 alpha polypeptide; Cytochrome b-245 light chain
Dilution	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	CYBA (HGNC:2577)
Function	Subunit of NADPH oxidase complexes that is required for the NADPH oxidase activity that generates, in various cell types, superoxide from molecular oxygen utilizing NADPH as an electron donor (PubMed:15824103, PubMed:17140397, PubMed:38355798). 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: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 (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: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 (PubMed:19948736). Associates with NOX3 to form a functional NADPH oxidase constitutively generating superoxide (PubMed:15824103, PubMed:17140397).
Cellular Location	Cell membrane; Multi-pass membrane protein

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