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PLB-T17 Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9884a

Product Information

Application	IHC-P, FC, WB, E
Primary Accession	P26678
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24137
Calculated MW	6109
Antigen Region	1-30

Additional Information

Gene ID	5350
Other Names	Cardiac phospholamban, PLB, PLN, PLB
Target/Specificity	This PLB antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids of human PLB.
Dilution	IHC-P~~1:100~500 FC~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PLB-T17 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

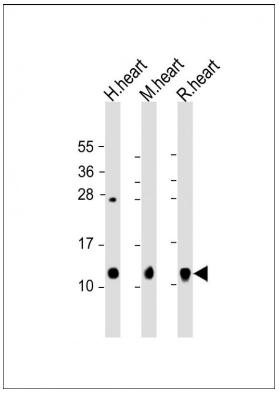
Name	PLN (HGNC:9080)
Synonyms	PLB
Function	Reversibly inhibits the activity of ATP2A2/SERCA2 in cardiac sarcoplasmic reticulum by decreasing the apparent affinity of the ATPase for Ca(2+)

	(PubMed:28890335). Binds preferentially to the ATP- bound E1 conformational form of ATP2A2 which predominates at low Ca(2+) concentrations during the diastolic phase of the cardiac cycle (By similarity). Inhibits ATP2A2 Ca(2+) affinity by disrupting its allosteric activation by ATP (By similarity). Modulates the contractility of the heart muscle in response to physiological stimuli via its effects on ATP2A2. Modulates calcium re-uptake during muscle relaxation and plays an important role in calcium homeostasis in the heart muscle. The degree of ATP2A2 inhibition depends on the oligomeric state of PLN. ATP2A2 inhibition is alleviated by PLN phosphorylation (By similarity). Also inhibits the activity of ATP2A3/SERCA3 (By similarity). Controls intracellular Ca(2+) levels in elongated spermatids and may play a role in germ cell differentiation (By similarity). In the thalamic reticular nucleus of the brain, plays a role in the regulation of sleep patterns and executive functioning (By similarity).
Cellular Location	Endoplasmic reticulum membrane; Single-pass membrane protein. Sarcoplasmic reticulum membrane; Single-pass membrane protein. Mitochondrion membrane {ECO:0000250|UniProtKB:A4IFH6}; Single-pass membrane protein. Membrane {ECO:0000250|UniProtKB:P61014}; Single-pass membrane protein. Note=Colocalizes with HAX1 at the endoplasmic reticulum (PubMed:17241641). Colocalizes with DMPK at the sarcoplasmic reticulum (PubMed:15598648).
Tissue Location	Heart muscle (at protein level).

Background

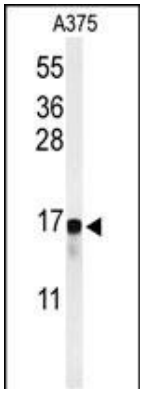
PLB is a 52 amino acid phosphoprotein which regulates the calcium pump of cardiac sarcoplasmic reticulum (SR). PLB is an oligomer of five identical subunits each having a cytoplasmic and transmembrane domain. The cytoplasmic domain (residues 1 to 25) contains the phosphorylation sites and is highly basic and readily cleaved by proteases; whereas the transmembrane domain (residues 25 to 52) is mostly hydrophobic, protease resistant and stabilizes the pentamer.

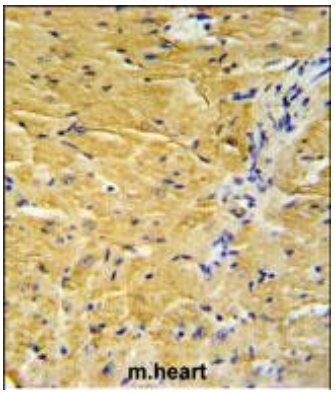
Images



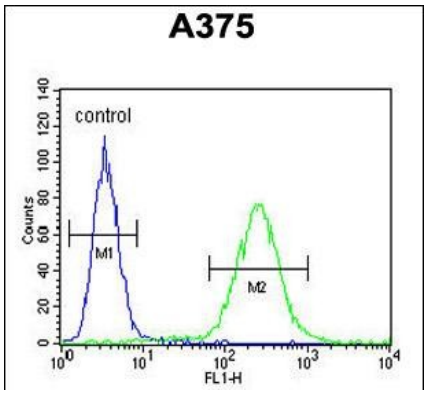
All lanes : Anti-PLB Antibody at 1:2000 dilution Lane 1: human heart lysate Lane 2: mouse heart lysate Lane 3: rat heart lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 6 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Western blot analysis of PLB antibody (Cat. #AP9884a) in A375 cell line lysates (36ug/lane). PLB (arrow) was detected using the purified Pab.





PLB Antibody (Cat. #AP9884a) IHC analysis in formalin fixed and paraffin embedded mouse heart tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the PLB Antibody for immunohistochemistry. Clinical relevance has not been evaluated.



PLB Antibody (Cat. #AP9884a) flow cytometric analysis of A375 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- DBA/1 mice display equivalent cardiac function to C57BL/6J mice

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