10320 Camino Santa Fe, Suite G
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PLB-T17 Antibody
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9884a

Specification

PLB-T17 Antibody - Product Information

Application	**WB, IHC-P, FC,E**
Primary Accession	P26678
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**1-30**

PLB-T17 Antibody - 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
WB~~1:2000
IHC-P~~1:50~100
FC~~1:10~50

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.

PLB-T17 Antibody - 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).

PLB-T17 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PLB-T17 Antibody - Images

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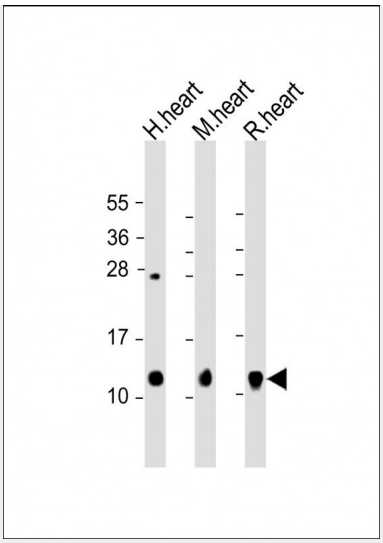
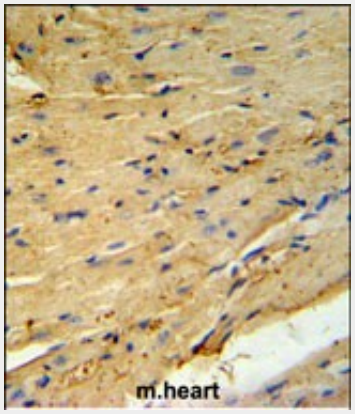
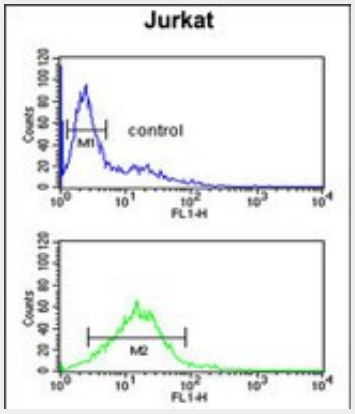


All lanes : Anti-PLB Antibody at 1:2000 dilution Lane 1: human heart lysate Lane 2: mouse heart lysate Lane 3: rat heart lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 6 kDa Blocking/Dilution buffer: 5%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



PLB-T17 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-T17 Antibody for immunohistochemistry. Clinical relevance has not been evaluated.



PLB-T17 Antibody (Cat. #AP9884a) flow cytometric analysis of Jurkat cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

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PLB-T17 Antibody - 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.

PLB-T17 Antibody - Citations

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