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Phospho-PLB(T17) Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3694A

Specification

Phospho-PLB(T17) Antibody - Product Information

Application	**DB, WB,E**
Primary Accession	P26678
Reactivity	**Human, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**

Phospho-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 phosphopeptide corresponding to amino acid residues surrounding T17 of human PLB.

Dilution
DB~~1:500
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
Phospho-PLB(T17) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Phospho-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).

Phospho-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

Phospho-PLB(T17) Antibody - Images

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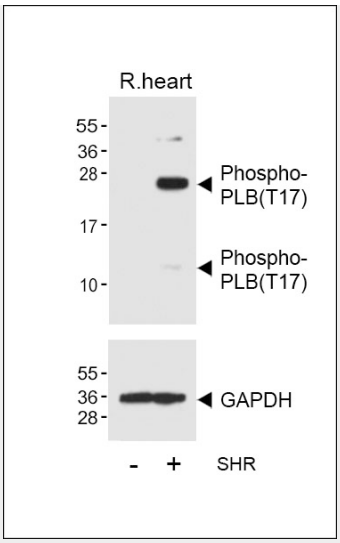
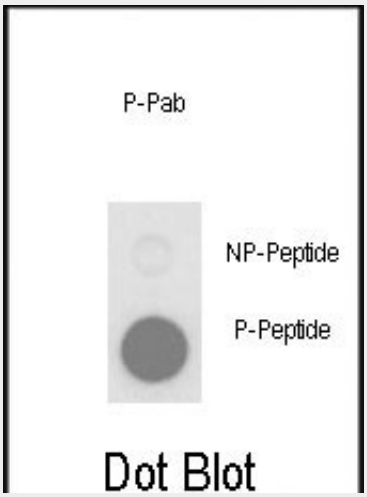


Western blot analysis of lysates from Rat heart tissue and spontaneous hypertensive (SHR) rat heart tissue lysate, using Phospho-PLB(T17) Antibody(Cat. #AP3694a)(upper) or GAPDH (lower).



Dot blot analysis of anti-Phospho-PLB-T17 Phospho-specific Pab (Cat. #AP3694a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.

Phospho-PLB(T17) Antibody - Background

Phospholamban (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.