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Anti-PLN Antibody
Catalog # ABO10635

Specification

Anti-PLN Antibody - Product Information

Application	**WB**
Primary Accession	P26678
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Cardiac phospholamban(PLN) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-PLN Antibody - Additional Information

Gene ID 5350

Other Names
Cardiac phospholamban, PLB, PLN, PLB

Calculated MW
6109 MW KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization
Sarcoplasmic reticulum membrane; Single-pass membrane protein. Mitochondrion membrane ; Single- pass membrane protein . Endoplasmic reticulum membrane; Single-pass membrane protein.

Tissue Specificity
Heart muscle (at protein level). .

Protein Name
Cardiac phospholamban(PLB)

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the N-terminus of human PLN (2-16aa EKVQYLTRSAIRRAS), identical to the related rat and mouse sequences.

Purification
Immunogen affinity purified.

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.**

Anti-PLN 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).

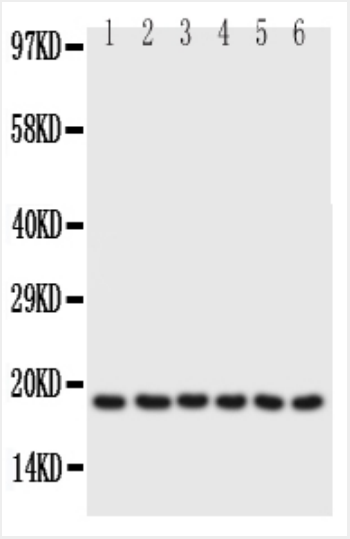
Anti-PLN Antibody - Protocols

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

Anti-PLN Antibody - Images



Anti-PLN antibody, ABO10635, Western blottingAll lanes: Anti PLN (ABO10635) at 0.5ug/mlLane 1: Rat Heart Tissue Lysate at 50ugLane 2: Rat Heart Tissue Lysate at 50ugLane 3: CEM Whole Cell Lysate at 40ugLane 4: MCF-7 Whole Cell Lysate at 40ugLane 5: HT1080 Whole Cell Lysate at 40ugLane 6: HELA Whole Cell Lysate at 40ugPredicted bind size: 18KDObserved bind size: 18KD

Anti-PLN Antibody - Background

Phospholamban is a 52 amino acid integral membrane protein that regulates the Ca2+ pump in cardiac muscle and skeletal muscle cells. The subsequent activation of the Ca(2+) pump leads to enhanced muscle relaxation rates, thereby contributing to the inotropic response elicited in heart by beta-agonists. Phospholamban is also expressed in slow-twitch skeletal muscle and some smooth muscle cells. McTiernan et al.(1999) observed that human ventricle and quadriceps displayed high levels of phospholamban transcripts and proteins, with markedly lower expression observed in smooth muscles, while the right atrium also expressed low levels of phospholamban. The structure of the human phospholamban gene closely resembles that reported for chicken, rabbit, rat, and mouse. Comparison of the human to other mammalian phospholamban genes indicated a marked conservation of sequence for at least 217 bp upstream of the transcription start site.