

**PLN Antibody (N-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP20550a**

**Specification**

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**PLN Antibody (N-term) - Product Information**

Application	WB,E
Primary Accession	<a href="#">P26678</a>
Other Accession	<a href="#">P61016</a> , <a href="#">P61015</a> , <a href="#">P61013</a> , <a href="#">P61014</a> , <a href="#">A4IFH6</a>
Reactivity	Human
Predicted	Bovine, Mouse, Pig, Rabbit, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	6109

**PLN Antibody (N-term) - Additional Information**

**Gene ID** 5350

**Other Names**

Cardiac phospholamban, PLB, PLN, PLB

**Target/Specificity**

This PLN antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 1-22 amino acids from the N-terminal region of human PLN.

**Dilution**

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**

PLN Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**PLN Antibody (N-term) - 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  $\text{Ca}^{2+}$  (PubMed:[28890335](#)). Binds preferentially to the ATP- bound E1 conformational form of ATP2A2 which predominates at low  $\text{Ca}^{2+}$  concentrations during the diastolic phase of the cardiac cycle (By similarity). Inhibits ATP2A2  $\text{Ca}^{2+}$  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  $\text{Ca}^{2+}$  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).

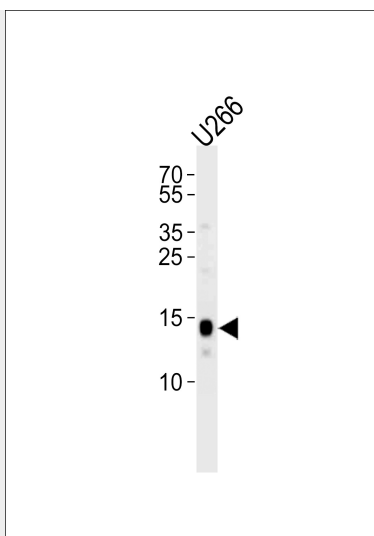
#### **PLN Antibody (N-term) - Protocols**

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **PLN Antibody (N-term) - Images**





Western blot analysis of lysate from U266 cell line, using PLN Antibody (N-term) (Cat. #AP20550a). AP20550a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L (HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug per lane.

#### PLN Antibody (N-term) - Background

Reversibly inhibits the activity of ATP2A2 in cardiac sarcoplasmic reticulum by decreasing the apparent affinity of the ATPase for  $\text{Ca}^{2+}$ . 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.

#### PLN Antibody (N-term) - References

- Fujii J., et al. J. Biol. Chem. 266:11669-11675(1991).
- Salvatore C.A., et al. Submitted (MAR-1991) to the EMBL/GenBank/DDBJ databases.
- McTiernan C.F., et al. J. Mol. Cell. Cardiol. 31:679-692(1999).
- Minamisawa S., et al. Biochem. Biophys. Res. Commun. 304:1-4(2003).
- Kaliman P., et al. J. Biol. Chem. 280:8016-8021(2005).