

Phospholamban (PLN,PLB) (pSer10) pAb

Quality Control Certificate of Analysis

Catalogue No.:A010-10AP

Unit Size: 50 µg / 50 µl

Lot No: 1012-01

Background: Phospholamban (PLN/PLB) is a small transmembrane protein which plays an important role in controlling the activity of the sarcoplasmic reticulum Ca²⁺-ATPase (SERCA2a) of cardiac muscle during calcium sequestration (Drago and Colyer, 1994). Phospholamban is phosphorylated on Ser-10 (PKC, Movsesian *et al.*, 1984), Ser-16 (PKA or PKG, Simmerman *et al.*, 1986) and Thr-17 (CaMKII, Simmerman *et al.*, 1986; or Akt, Catalucci *et al.*, 2009). The result of each of these phosphorylation events is an increased calcium pump activity which reduces the time course of the calcium transient, increases the calcium load in the sarcoplasmic reticulum, and consequently, produces a larger calcium transient at the next action potential (Sham *et al.*, 1991). The physiological and pathophysiological importance of Ser-10 phosphorylation of PLN has not been elucidated, and this polyclonal phospho-specific antibody will assist the description of these roles of Ser-10 phosphorylation.

Description: Lyophilised **Rabbit** polyclonal antibody Protein A affinity purified

Immunogen: Pure phosphopeptide CKVQYLTRS(PO₃H₂)AIR conjugated to blue carrier protein from mollusc *Concholepas concholepas*.

Antibody Isotype: IgG.

Antibody Purity: Protein A Affinity Purified

Specificity: The antibody recognises mono and oligomeric phospholamban when phosphorylated on serine-10. Binding of the antibody to its target epitope is blocked in the presence of a phosphopeptide containing the PLN Phospho Ser-10 epitope.

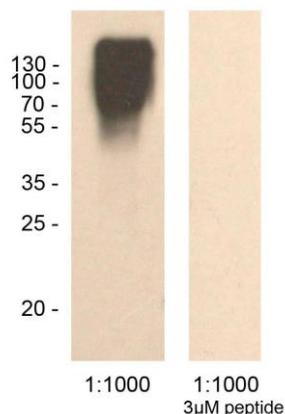
Species Cross Reactivity: Ab tested against mouse tissue, but epitope sequence is contained within PLN from many species (see figure to left).

Vial Constituents: Lyophilised affinity purified antibody (50 µg) formerly dissolved in 0.1M Tris-citrate pH 7.4 with 20%v/v stabiliser solution.

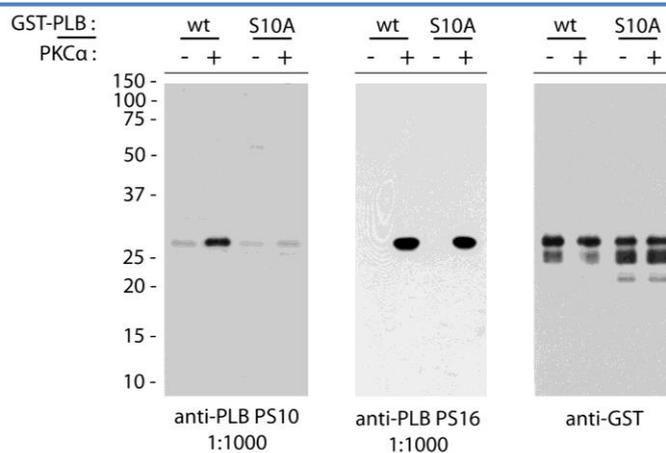
Storage Instructions: Lyophilised antibody is stable at 4 °C when stored with desiccant. Reconstitute lyophilised powder in 50 µl of 18 MΩ H₂O for a 1mg/ml solution with stable buffering conditions. Aliquot and store frozen at -80 °C for 1 year. Avoid freeze - thaw cycles.

PO₃H₂ Specific

	1	5	↓	15										
Epitope	-	C	K	V	Q	L	T	R	S	A	I	R	-	
Human	M	E	K	V	Q	Y	L	T	R	S	A	I	R	R
Mouse	M	E	K	V	Q	Y	L	T	R	S	A	I	R	R
Rat	M	E	K	V	Q	Y	L	T	R	S	A	I	R	R
Rabbit	M	E	K	V	Q	Y	L	T	R	S	A	I	R	R
Chicken	M	E	K	V	Q	Y	I	T	R	S	A	L	R	R
Xenopus	M	E	K	V	Q	H	I	T	R	S	A	M	R	R
Danio	M	E	K	V	Q	H	M	T	R	A	A	I	R	R



WB using 1:1000 anti-PLN PS10 (A010-10AP) against 0.25µg of BSA conjugated peptide. Ab binding is blocked by epitope phosphopeptide (3µM: P010-10) in right hand panel



WB showing the specificity of anti-PLN PS10
GST-PLN_{N-terminus} wild type and S10A fusion proteins +/- PKCα treatment were stained by Western Blot (WB) using anti-PLN PS10 (A010-10AP, left panel), PLN-PS16 (A010-12, middle panel) and anti-GST (right panel). Data provided by S. Lange (UCSD).

Related Products: P010-10 (PLN-PS10 peptide), A010-12AP (anti-PLN PS16), A010-13AP (anti-PLN PT17), A010-14 (anti-PLN

Background References:

- Catalucci, D., Latronico, MV., Ceci, M., Rusconi, F., Young, HS., Gallo, P., Santonastasi, M., Bellacosa, A., Brown, JH. & Condorelli, G. (2009) J. Biol. Chem. 284, 28180-7
- Drago, G. A., and Colyer, J. (1994) J. Biol. Chem. 269, 25073-25077
- Movsesian, Nishikawa & Adelstein (1984) J. Biol.Chem. 259, 8029-8032
- Sham, JS., Jones, LR., and Morad, M. (1991) Am. J. Physiol. 261, H1344-1349