https://badrilla.com

Phospholamban (PLN, PLB) (pThr17) pAb serum

Quality Control Certificate of Analysis
Catalogue No.:A010-13
Unit Size: 25 µl
Lot No: A642217

Background: Phospholamban (PLB/PLN) is a small transmembrane protein which plays an important role in controlling the activity of the sarcoplasmic reticulum ATPase (SERCA2a) of cardiac muscle during calcium sequestration (Drago and Colyer, 1994). Phospholamban is phosphorylated on separate amino acid residues by cAMP-dependent, and cGMP-dependent (Ser-16, Simmerman *et al*., 1986) and Ca^{2+}/CaM-dependent (Thr-17, Simmerman *et al*., 1986) protein kinases in response to β-adrenergic stimulation (Wegener *et al*., 1989). Akt has also been shown to phosphorylate Thr-17. The result 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). However, alteration in this homeostatic interaction has been shown to result in heart failure (MacLennan and Kranias, 2003).

Description: Lyophilised **Rabbit** polyclonal anti-serum (A010-13) containing IgG antibody specific for Thr-17 phosphorylated forms of PLB (Drago & Colyer, 1994).

Immunogen: Phosphopeptide comprising residues 9-19-Y (residues R_9SAIRRAST(PO_3H_2)IEY_{20}) conjugated to KLH.

Antibody Isotype: IgG.

Antibody Purity: Raw Serum.

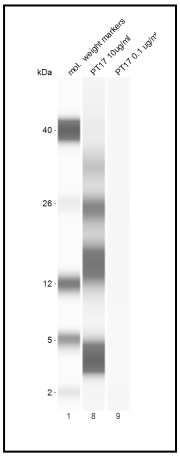
Specificity: The antibody recognises mono and oligomeric phospholamban when phosphorylated on threonine-17. Binding of the antibody to its target epitope is blocked in the presence of a phosphopeptide containing the PLB Phospho Thr-17 epitope.

Species Cross Reactivity: Reacts with Phospho Thr-17 of phospholamban from Human, mouse, rat, rabbit, chicken, bovine, canine, ferret, hamster and sheep species.

Vial Constituents: Lyophilised A010-13 Rabbit anti-serum (25 µl)

Storage Instructions: Lyophilised antibody is stable at 4 °C when stored with desiccant. Reconstitute lyophilised powder in 25 µl of 18 MΩ H_2O, aliquot and store frozen at -80 °C for 1 year. Avoid freeze - thaw cycles.

Tested Applications: manual **WB 1:5000, automated WB (WES Protein Simple 1:50 IHC 1:200,** ELISA



Detection of Threonine-17 phosphorylated PLN Species Using anti-PLN pThr-17 pAb serum (A010-13, lot A642217)
Synthetic PLN (water soluble form) phosphorylated at Thr-17 was detected in automated western blot (WES, ProteinSimple) by A010-13, lot A642217 at a dilution of 1:50. 1.5 µL 10 µg/mL PLN was ready detected, monomer, dimer and other oligomeric species.

Related Products:
PLB phospho Ser-16 epitope peptide (P010-12AP); PLB phosphor Thr-17 antibody (A010-13AP); PLB A1 Antibody (A010-14).

Background References:

- Drago, G. A., and Colyer, J. (1994) J Biol Chem 269, 25073-25077
- MacLennan, D. H., and Kranias, E. G. (2003) Nat Rev Mol Cell Biol 4, 566-577
- Sham, J. S., Jones, L. R., and Morad, M. (1991) Am J Physiol 261, H1344-1349
- Simmerman, H. K., Collins, J. H., Theibert, J. L., Wegener, A. D., and Jones, L. R. (1986) J Biol Chem 261, 13333-13341
- Wegener, A. D., Simmerman, H. K., Lindemann, J. P., and Jones, L. R. (1989) J Biol Chem 264, 11468-11474