

## Product datasheet

# Anti-Phospholamban antibody [2D12] ab2865

★★★★★ 8 Abreviews 30 References 4 Images

### Overview

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|                            |   |
|----------------------------|---|
| <b>Product name</b>        | Anti-Phospholamban antibody [2D12]  |
| <b>Description</b>         | Mouse monoclonal [2D12] to Phospholamban  |
| <b>Host species</b>        | Mouse   |
| <b>Tested applications</b> | <b>Suitable for:</b> ICC/IF, Inhibition Assay, IHC-P, IP, WB  |
| <b>Species reactivity</b>  | <b>Reacts with:</b> Mouse, Rat, Sheep, Rabbit, Chicken, Guinea pig, Dog, Human, Pig<br><b>Predicted to work with:</b> Cow   |
| <b>Immunogen</b>           | Synthetic peptide corresponding to Dog Phospholamban aa 2-25.<br>Sequence:<br>DKVQYLTRSAIRRASTIEMPQQAR<br><br><a href="#">Run BLAST with</a> <a href="#">Run BLAST with</a> |
| <b>Epitope</b>             | This antibody recognizes an epitope between amino acid residues 9-17 of canine PLB.   |

### Properties

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|                             |  |
|-----------------------------|--|
| <b>Form</b>                 | Liquid   |
| <b>Storage instructions</b> | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. |
| <b>Storage buffer</b>       | Preservative: 0.05% Sodium azide<br>Constituent: PBS   |
| <b>Purity</b>               | Ascites  |
| <b>Clonality</b>            | Monoclonal   |
| <b>Clone number</b>         | 2D12   |
| <b>Isotype</b>              | IgG2a  |

### Applications

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Our [Abpromise guarantee](#) covers the use of **ab2865** in the following tested applications.

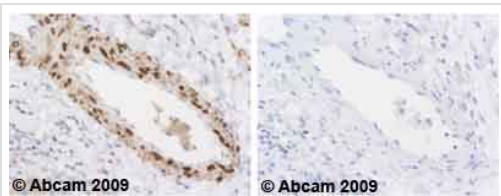
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| Application      | Abreviews | Notes  |
|------------------|-----------|--|
| ICC/IF           | ★★★★★     | 1/10 - 1/100.  |
| Inhibition Assay |           | Use at an assay dependent concentration.   |
| IHC-P            |           | 1/200.   |
| IP               |           | Use at an assay dependent concentration.   |
| WB               | ★★★★★     | 1/500 - 1/5000.<br>This antibody detects a 25 kDa protein under non-reducing conditions representing the pentameric form of PLB and a 5 kDa protein under reducing conditions representing the monomeric form of PLB in canine cardiac extracts. |

## Target

|   |   |
|---|---|
| <b>Function</b>                         | Reversibly inhibits the activity of ATP2A2 in cardiac sarcoplasmic reticulum by decreasing the apparent affinity of the ATPase for 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. |
| <b>Tissue specificity</b>               | Heart muscle (at protein level).  |
| <b>Involvement in disease</b>           | Cardiomyopathy, dilated 1P<br>Cardiomyopathy, familial hypertrophic 18  |
| <b>Sequence similarities</b>            | Belongs to the phospholamban family.  |
| <b>Post-translational modifications</b> | Phosphorylation by PKA abolishes the inhibition of ATP2A2-mediated calcium uptake. Phosphorylated at Thr-17 by CaMK2, and in response to beta-adrenergic stimulation. Phosphorylation by DMPK may stimulate sarcoplasmic reticulum calcium uptake in cardiomyocytes.  |
| <b>Cellular localization</b>            | Endoplasmic reticulum membrane. Sarcoplasmic reticulum membrane. Mitochondrion membrane. Membrane. Colocalizes with HAX1 at the endoplasmic reticulum (PubMed:17241641). Colocalizes with DMPK a the sarcoplasmic reticulum (PubMed:15598648).  |

## Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Phospholamban antibody [2D12] (ab2865)

Ab2865 staining human normal liver. Staining is localized to the cytoplasm.

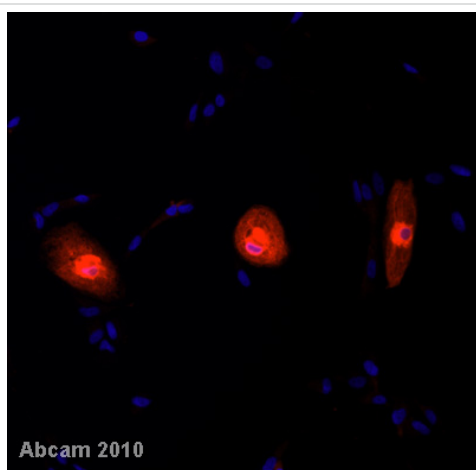
Left panel: with primary antibody at 1/1000.

Right panel: isotype control.

Sections were stained using an automated system DAKO Autostainer Plus , at room temperature. Sections were rehydrated and antigen retrieved with the Dako 3-in-1 AR buffer EDTA pH 9.0 in a DAKO PT Link.

Slides were peroxidase blocked in 3% H<sub>2</sub>O<sub>2</sub> in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS), then incubated with primary antibody for 20 minutes, and detected with Dako Envision Flex amplification kit for 30 minutes.

Colorimetric detection was completed with diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.



Immunocytochemistry/ Immunofluorescence - Anti-Phospholamban antibody [2D12] (ab2865)

This image is from an anonymous abreview

IF/ICC image of Phospholamban antibody

(ab2865) staining hES cell derived

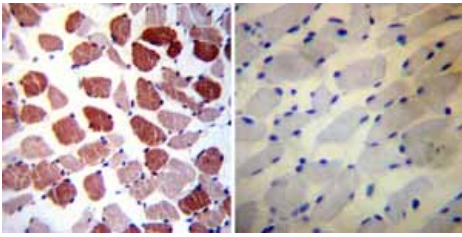
cardiomyocytes (red). The cells were fixed in

paraformaldehyde and blocked in 4% goat

serum for 1 hour at 25°C. The Phospholamban

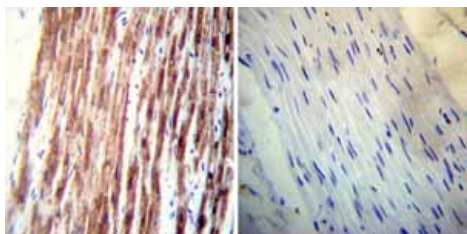
antibody was used at a concentration of

1:250, for 16 hours at 4°C.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Phospholamban antibody [2D12] (ab2865)

Immunohistochemistry was performed on both normal and cancer biopsies of deparaffinized Human skeletal muscle tissues. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:200 with a mouse monoclonal antibody recognizing Phospholamban ab2865 or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Phospholamban antibody [2D12] (ab2865)

Immunohistochemistry was performed on both normal and cancer biopsies of deparaffinized Human heart tissue tissues. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:200 with a mouse monoclonal antibody recognizing Phospholamban ab2865 or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.

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