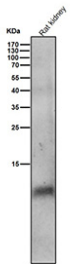
Phospho-Phospholamban (pS16) Antibody / PLN [clone 32P55] (FY12822)

Catalog No.	Formulation	Size
FY12822	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

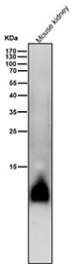
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32P55
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P26678
Applications	Western blot: 1:500-1:2000
Limitations	This Phospho-Phospholamban (pS16) antibody is available for research use only.



Rat kidney tissue lysate tested with the Phospho-Phospholamban (pS16) antibody at 1:2000 dilution for 1 hour at room temperature. A specific band is detected near ~10 kDa, consistent with the phosphorylated form of monomeric Phospholamban. The apparent size exceeds its 6 kDa theoretical mass due to its hydrophobic, multimeric nature and phosphorylation-dependent gel mobility.



Mouse kidney tissue lysate tested with the Phospho-Phospholamban (pS16) antibody at 1:2000 dilution for 1 hour at room temperature. A specific band is detected near ~10 kDa, consistent with the phosphorylated form of monomeric Phospholamban. The apparent size exceeds its 6 kDa theoretical mass due to its hydrophobic, multimeric nature and phosphorylation-dependent gel mobility.

Description

Phospho-Phospholamban (pS16) antibody detects PHOSPHOLAMBAN, encoded by the PLN gene, when phosphorylated at serine 16. Alternate names include cardiac phospholamban, PLB, and phospholamban phosphoprotein. PHOSPHOLAMBAN is a small transmembrane protein in the sarcoplasmic reticulum of cardiac and skeletal muscle. It regulates SERCA2a, the sarcoplasmic reticulum Ca2+ ATPase responsible for calcium uptake during muscle relaxation. In its unphosphorylated state, PHOSPHOLAMBAN inhibits SERCA2a. Phosphorylation at serine 16 by PKA relieves this inhibition, enhancing calcium uptake, promoting relaxation, and increasing cardiac contractility.

Phospho-Phospholamban (S16) antibody is widely applied in cardiovascular biology, muscle physiology, and signaling research. By detecting phosphorylation at serine 16, researchers can study how beta adrenergic signaling enhances cardiac output through PKA mediated regulation of calcium cycling. This site specific antibody allows distinction between active and inhibited PHOSPHOLAMBAN, providing insights into heart function under physiological and pathological conditions.

Applications include western blotting, immunohistochemistry, immunofluorescence, and ELISA. Western blot assays detect phosphorylated PHOSPHOLAMBAN in heart lysates, immunohistochemistry maps phosphorylation in cardiac tissue sections, and immunofluorescence highlights localization in sarcoplasmic reticulum. ELISA assays allow quantification of phosphorylation status in experimental models. These techniques provide direct evidence of cardiac signaling events.

Dysregulation of PHOSPHOLAMBAN phosphorylation contributes to heart failure, arrhythmias, and cardiomyopathies. Mutations in PLN cause inherited dilated cardiomyopathy and arrhythmogenic right ventricular cardiomyopathy. Monitoring serine 16 phosphorylation provides biomarkers for disease progression and therapy efficacy. By applying Phospho-Phospholamban (pS16) antibody, scientists can investigate how altered signaling leads to impaired cardiac relaxation and contractility.

Phosphorylation of PHOSPHOLAMBAN is also studied in exercise physiology, where beta adrenergic stimulation enhances contractility. The antibody supports research into how training, drugs, and genetic variants influence calcium cycling. Translational applications include evaluation of therapeutic interventions targeting SERCA2a regulation, such as gene therapy or pharmacologic modulators. NSJ Bioreagents offers Phospho-Phospholamban (pS16) antibody with validated specificity, supporting robust research into cardiac physiology and disease.

Application Notes

Optimal dilution of the Phospho-Phospholamban (pS16) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-Phospholamban (pS16) was used as the immunogen for the Phospho-Phospholamban (pS16) antibody.

Storage

Store the Phospho-Phospholamban (pS16) antibody at -20oC.

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