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Phospho-PLM(S68) Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1120a

Product Information

Application	WB, E
Primary Accession	Q9Z239
Reactivity	Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Clone Names	41AT858.235
Calculated MW	10323

Additional Information

Gene ID	56188
Other Names	Phospholemman, FXYD domain-containing ion transport regulator 1, Fxyd1, Plm
Target/Specificity	This PLM Antibody is generated from mice immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S68 of mouse PLM.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
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	Phospho-PLM(S68) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Fxyd1 {ECO:0000312|MGI:MGI:1889273}
Function	Associates with and regulates the activity of the sodium/potassium-transporting ATPase (NKA) which transports Na(+) out of the cell and K(+) into the cell (PubMed:15563542, PubMed:18065526). Inhibits NKA activity in its unphosphorylated state and stimulates activity when phosphorylated (By similarity). Reduces glutathionylation of the NKA beta-1

	subunit ATP1B1, thus reversing glutathionylation- mediated inhibition of ATP1B1 (PubMed:21454534). Contributes to female sexual development by maintaining the excitability of neurons which secrete gonadotropin-releasing hormone (PubMed:19187398).
Cellular Location	Cell membrane, sarcolemma {ECO:0000250|UniProtKB:P56513}; Single-pass type I membrane protein. Apical cell membrane {ECO:0000250|UniProtKB:O08589}; Single-pass type I membrane protein. Membrane, caveola {ECO:0000250|UniProtKB:O08589}. Cell membrane, sarcolemma, T-tubule {ECO:0000250|UniProtKB:O08589}. Note=Detected in the apical cell membrane in brain. In myocytes, localizes to sarcolemma, t-tubules and intercalated disks. {ECO:0000250|UniProtKB:O08589}

Background

This gene encodes a member of the FXYD family of small membrane proteins that share a 35-amino acid signature sequence domain, beginning with the sequence PFXYD and containing 7 invariant and 6 highly conserved amino acids. The protein encoded by this gene is a plasma membrane substrate for several kinases, including protein kinase A, protein kinase C, NIMA kinase, and myotonic dystrophy kinase. It is thought to form an ion channel or regulate ion channel activity and act as an accessory protein of Na,K-ATPase. Alternatively spliced transcript variants have been described.

References

Phospholemman and beta-adrenergic stimulation in the heart. Wang J, et al. Am J Physiol Heart Circ Physiol, 2010 Mar. PMID 20008271.

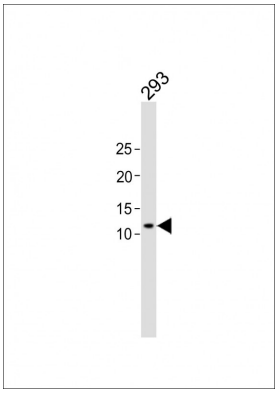
Extracellular potassium dependence of the Na+-K+-ATPase in cardiac myocytes: isoform specificity and effect of phospholemman. Han F, et al. Am J Physiol Cell Physiol, 2009 Sep. PMID 19570895.

FXYD1, a modulator of Na,K-ATPase activity, facilitates female sexual development by maintaining gonadotrophin-releasing hormone neuronal excitability. Garcia-Rudaz C, et al. J Neuroendocrinol, 2009 Feb. PMID 19187398.

Cell volume control in phospholemman (PLM) knockout mice: do cardiac myocytes demonstrate a regulatory volume decrease and is this influenced by deletion of PLM? Bell JR, et al. Exp Physiol, 2009 Mar. PMID 19074587.

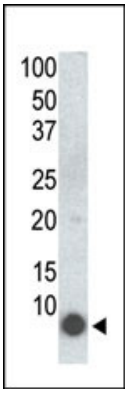
Regulation of cardiac myocyte contractility by phospholemman: Na+/Ca2+ exchange versus Na+ -K+ -ATPase. Song J, et al. Am J Physiol Heart Circ Physiol, 2008 Oct. PMID 18708446.

Images



All lanes: Anti-PLM(S68) Antibody at 1:1000 dilution + 293 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Observed band size: 10 KDa Blocking/Dilution buffer: 5% NFDM/TBST.

Western blot analysis of anti-PLM Mab (Cat. #AM1120a) in 293 cells transfected with a plasmid encoding PLM.



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