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Mouse Camk2d Antibody (Center) Blocking peptide

Synthetic peptide
Catalog # BP13799c

Specification

Mouse Camk2d Antibody (Center) Blocking peptide - Product Information

Primary Accession Q6PHZ2

Mouse Camk2d Antibody (Center) Blocking peptide - Additional Information

Gene ID 108058

Other Names
Calcium/calmodulin-dependent protein kinase type II subunit delta, CaM kinase II subunit delta, CaMK-II subunit delta, Camk2d, Kiaa4163

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP13799c was selected from the Center region of Mouse Camk2d. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Camk2d Antibody (Center) Blocking peptide - Protein Information

Name Camk2d

Synonyms Kiaa4163

Function
Calcium/calmodulin-dependent protein kinase involved in the regulation of Ca(2+) homeostatis and excitation-contraction coupling (ECC) in heart by targeting ion channels, transporters and accessory proteins involved in Ca(2+) influx into the myocyte, Ca(2+) release from the sarcoplasmic reticulum (SR), SR Ca(2+) uptake and Na(+) and K(+) channel transport (PubMed:12676814, PubMed:15456698, PubMed:17124532). Targets also transcription factors and signaling molecules to regulate heart function. In its activated form, is involved in the pathogenesis of dilated cardiomyopathy and heart failure (PubMed:12676814, PubMed:<a

href="http://www.uniprot.org/citations/19381018" target="_blank">19381018, PubMed:19179290). Contributes to cardiac decompensation and heart failure by regulating SR Ca(2+) release via direct phosphorylation of RYR2 Ca(2+) channel on 'Ser-2808' (PubMed:20194790). In the nucleus, phosphorylates the MEF2 repressor HDAC4, promoting its nuclear export and binding to 14-3-3 protein, and expression of MEF2 and genes involved in the hypertrophic program. Is essential for left ventricular remodeling responses to myocardial infarction (PubMed:15793582). In pathological myocardial remodeling acts downstream of the beta adrenergic receptor signaling cascade to regulate key proteins involved in ECC. Regulates Ca(2+) influx to myocytes by binding and phosphorylating the L-type Ca(2+) channel subunit beta-2 CACNB2. In addition to Ca(2+) channels, can target and regulate the cardiac sarcolemmal Na(+) channel Nav1.5/SCN5A and the K+ channel Kv4.3/KCND3, which contribute to arrhythmogenesis in heart failure (PubMed:17124532). Phosphorylates phospholamban (PLN/PLB), an endogenous inhibitor of SERCA2A/ATP2A2, contributing to the enhancement of SR Ca(2+) uptake that may be important in frequency-dependent acceleration of relaxation (FDAR) and maintenance of contractile function during acidosis. May participate in the modulation of skeletal muscle function in response to exercise, by regulating SR Ca(2+) transport through phosphorylation of PLN/PLB and triadin, a ryanodine receptor-coupling factor. In response to interferon-gamma (IFN-gamma) stimulation, catalyzes phosphorylation of STAT1, stimulating the JAK-STAT signaling pathway (PubMed:11972023).

Cellular Location
Cell membrane, sarcolemma; Peripheral membrane protein; Cytoplasmic side. Sarcoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side

Tissue Location
Expressed in cardiac muscle and skeletal muscle. Isoform Delta 2, isoform Delta 6, isoform Delta 6 and isoform Delta 10 are expressed in cardiac muscle. Isoform Delta 2 is expressed in skeletal muscle.

Mouse Camk2d Antibody (Center) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

Mouse Camk2d Antibody (Center) Blocking peptide - Images

Mouse Camk2d Antibody (Center) Blocking peptide - Background

CaM-kinase II (CAMK2) is a prominent kinase in the central nervous system that may function in long-term potentiation and neurotransmitter release (By similarity).

Mouse Camk2d Antibody (Center) Blocking peptide - References

Martinez-Pena y Valenzuela, I., et al. J. Neurosci. 30(37):12455-12465(2010)Toko, H., et al. Circulation 122(9):891-899(2010)Kushnir, A., et al. Proc. Natl. Acad. Sci. U.S.A. 107(22):10274-10279(2010)Mangmool, S., et al. J. Cell Biol. 189(3):573-587(2010)Koval, O.M., et al. Proc. Natl. Acad. Sci. U.S.A. 107(11):4996-5000(2010)