Calcium/Calmodulin-Dependent Protein Kinase Type II Subunit Delta (CAMK2D) Mouse Recombinant Protein

PRODUCT OVERVIEW

Product Name	Calcium/calmodulin-dependent protein kinase type II subunit delta (Camk2d), Recombinant Protein
Full Product Name	Recombinant Mouse Calcium/calmodulin-dependent protein kinase type II subunit delta (Camk2d)
Product Gene Name	Camk2d recombinant protein
Product Synonym Gene Name	Camk2d
Sequence	ASTTTCTRFT DEYQLFEELG KGAFSVVRRC MKIPTGQEYA AKIINTKKLS ARDHQKLERE ARICRLLKHP NIVRLHDSIS EEGFHYLVFD LVTGGELFED IVAREYYSEA DASHCIQQIL ESVNHCHLNG IVHRDLKPEN LLLASKSKGA AVKLADFGLA IEVQGDQQAW FGFAGTPGYL SPEVLRKDPY GKPVDMWACG VILYILLVGY PPFWDEDQHR LYQQIKAGAY DFPSPEWDTV TPEAKDLINK MLTINPAKRI TASEALKHPW ICQRSTVASM MHRQETVDCL KKFNARRKLK GAILTTMLAT RNFSAAKSLL KKPDGVKEST ESSNTTIEDE DVKARKQEII KVTEQLIEAI NNGDFEAYTK ICDPGLTAFE PEALGNLVEG MDFHRFYFEN ALSKSNKPIH TIILNPHVHL VGDDAACIAY IRLTQYMDGS GMPKTMQSEE TRVWHRRDGK WQNVHFHRSG SPTVPIKPPC IPNGKENFSG GTSLWQNI
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	57,748 Da
Sequence Positions	2-499, full length protein
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q6PHZ2
Species	Mouse
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for Camk2d recombinant protein	MBS1338808 is a recombinant protein targeting Camk2d. Also known as Recombinant Mouse Calcium/calmodulin-dependent protein kinase type II subunit delta (Camk2d). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.
Other Notes	Small volumes of Camk2d recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Camk2d. It may not necessarily be applicable to this product.

NCBI GI #	70906477
NCBI GeneID	108058

NCBI Accession #	NP_001020609.1
UniProt Primary Accession #	Q6PHZ2
UniProt Secondary Accession #	Q3UF87; Q3UQH9; Q5DTK4; Q8CAC5; Q9CZE2
UniProt Related Accession #	Q6PHZ2
GenBank Nucleotide #	NM_001025438.2
NCBI Official Full Name	calcium/calmodulin-dependent protein kinase type II subunit delta isoform 2
NCBI Official Synonym Full Names	calcium/calmodulin-dependent protein kinase II, delta
NCBI Official Symbol	Camk2d
NCBI Official Synonym Symbols	CaMK II; [d]-CaMKII; 2810011D23Rik; 8030469K03Rik
UniProt Protein Name	Calcium/calmodulin-dependent protein kinase type II subunit delta
Protein Family	Calcium/calmodulin-dependent protein kinase
UniProt Gene Name	Camk2d
UniProt Synonym Gene Names	Kiaa4163; CaM kinase II subunit delta; CaMK-II subunit delta
NCBI Protein Information	calcium/calmodulin-dependent protein kinase type II subunit delta
UniProt Comments for Camk2d	Calcium/calmodulin-dependent protein kinase involved in the regulation of Ca2+ homeostatis and excitation-contraction coupling (ECC) in heart by targeting ion channels, transporters and accessory proteins involved in Ca2+ influx into the myocyte, Ca2+ release from the sarcoplasmic reticulum (SR), SR Ca2+ uptake and Na+ and K+ channel transport. 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. Contributes to cardiac decompensation and heart failure by regulating SR Ca2+ release via direct phosphorylation of RYR2 Ca2+ channel on 'Ser-2808'. 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. In pathological myocardial remodeling acts downstream of the beta adrenergic receptor signaling cascade to regulate key proteins involved in ECC. Regulates Ca2+ influx to myocytes by binding and phosphorylating the L-type Ca2+ channel subunit beta-2 CACNB2. In addition to Ca2+ 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. Phosphorylates phospholamban (PLN/PLB), an endogenous inhibitor of SERCA2A/ATP2A2, contributing to the enhancement of SR Ca2+ 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 Ca2+ transport through phosphorylation of PLN/PLB and triadin, a ryanodine receptor-coupling factor.
Research Articles on Camk2d	**1.** surgical-induced Osteoarthritis mice treated with a miR-146a inhibitor significantly alleviated the destruction of articular cartilage via targeting Camk2d and Ppp3r2.
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