

## Product datasheet for **MR207996**

### Camk2d (NM\_001025438) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Camk2d (NM_001025438) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Camk2d
Synonyms:	2810011D23Rik; 8030469K03Rik; CaMK II; [d]-CaMKII
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR207996 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCTTCGACCACCACCTGCACCCGGTTCACCGACGAGTATCAGCTCTTTGAGGAGCTCGGAAAGGGG  
 CGTTCTCAGTGGTGAGAAGATGTATGAAAATCCCTACTGGACAAGAGTATGCTGCCAAAATTATCAACAC  
 CAAAAAGCTTTCTGCTAGGGACCATCAGAACTGGAAAGGGAAGCTAGAATCTGCCGTCTCTTGAAGCAC  
 CCCAATATTGTGAGACTTCATGACAGTATATCGGAGGAGGGCTTCCATTACTTGGTGTGTTGACTTAGTGA  
 CTGGTGGCGAACTGTTTGAAGACATAGTGGCAAGAGAATATTACAGTGAAGCTGATGCCAGTCATTGTAT  
 ACAACAGATTCTAGAGAGTGTAAATCATTGTACCTAAATGGCATAGTTCACAGGGACCTGAAGCCTGAG  
 AATTTGCTTTTAGCTAGCAAGTCCAAGGAGCAGCTGTGAAGCTGGCAGACTTCGGCTTAGCCATAGAAG  
 TTCAAGGGCACCAGCAGGCATGGTTTGGTTTTGCTGGCACACCTGGGTATCTTTCTCAGAAGTCTGCG  
 TAAAGATCCTTATGGAAAACCAGTGGATATGTGGGCATCGGGTGCATCCTCTACATCTTGTGGTGGGA  
 TACCCACCCTTCTGGGATGAAGATCAGCATAGACTGTATCAGCAGATCAAGGCCGGAGCTTATGATTTTC  
 CGTCACCAAGAATGGGATACAGTGACACCTGAAGCCAAAGACCTCATCAACAAAATGCTGACCATCAACCC  
 TGCCAAACGATACACAGCCTCTGAGGCCCTGAAACACCCATGGATCTGTCAACGCTCTACTGTTGCCTCC  
 ATGATGCACAGGCAGGAGACTGTAGACTGCTTGAAGAAATTTAATGCTAGACGAAAATGAAGGGCGCCA  
 TCTTGACAACATAGCTGGCTACGAGAAATTTTTCAGCAGCCAAGAGTTTATTGAAGAAACCATGAGGGT  
 AAAGGAGTCAACTGAGAGCTCAAACACCACCTTGAAGTGAAGAGCTGAAAGCAGGAAACAGGAGATC  
 ATCAAAGTCACTGAGCAACTGATTGAAGCTATCAACAATGGGGACTTTGAGGCTTACACAAAAATCTGTG  
 ATCCAGGCCTCACTGCCTTTGAACCTGAAGCAATGGGTAACCTAGTGAAGGGATGGACTTTCACAGATT  
 CTACTTTGAAAAATGCTTTGTCCAAAAGCAATAAACCAATCCACACGATCATCCTCAACCCACACGTGCAC  
 CTGGTAGGGGACGATGCAGCCTGCATTGCATACATTTCGGCTCACACAGTACATGGACGGAAGCGGGATGC  
 CAAAGACCATGCAGTCAGAAGAGACGCGCGTGTGGCACCGCGTGATGGGAAAGTGGCAGAAATGTTCACTT  
 TCACCGTTTCGGGGTCCCCACAGTACCCATCAAGCCACCCTGTATTCCAATGGGAAAGAGAAGTCTCTCA  
 GGAGGCACCTCTTTGTGGCAAACATC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR207996 protein sequence  
 Red=Cloning site Green=Tags(s)

MASSTTCTRFDTDEYQLFEELGKGAFSVVRRRCMKIPTGQEYAAKIINTKKLSARDHQKLEREARICRLLKH  
 PNIVRLHDSISEEGFHLYVFDLVTGGELFEDIVAREYYSEADASHCIQQILESVNHCHLNGIVHRDLKPE  
 NLLLASKSKGAAVKLADFLAIEVQGDQQAWEFGAGTPGYLSPEVLRKDPYGKPVDMWACGVILYILLVG  
 YPPFWDEDQHRLYQIKAGAYDFPSPEWDTVTPEAKDLINKMLTINPAKRITASEALKHPWICQRSTVAS  
 MMHRQETVDLKKFNARRKLGAILTTMLATRNFSAAKSLKKPDGVKESTESSNTTIEDEDVKARKQEI  
 IKVTEQLIEAINNGDFEAYTKICDPGLTAFEPEALGNLVEGMDFHRFYFENALSKSNKPIHTIILNPHVH  
 LVGDAAACIAYIRLTQYMDGSGMPKTMQSEETRVWHRDQKQVNFHRSQSPTVPIKPPCIPNGKENFS  
 GGTSLWQNI

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

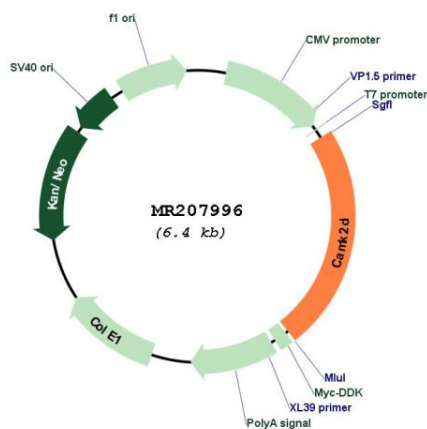
Sgfl-MluI



MW: 56.4 kDa

**Gene Summary:** Calcium/calmodulin-dependent protein kinase involved in the regulation of Ca(2+) homeostasis 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. 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 Ca(2+) release via direct phosphorylation of RYR2 Ca(2+) 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 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. 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.[UniProtKB/Swiss-Prot Function]

### Product images:



Circular map for MR207996