

Product datasheet for MR205800

Camk1 (NM_133926) Mouse Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Camk1 (NM_133926) Mouse Tagged ORF Clone
Tag: Myc-DDK
Symbol: Camk1
Synonyms: A1505105; CaMKIalpha; D6Ertd263e
Mammalian Cell Selection: Neomycin
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
ORF Nucleotide Sequence: >MR205800 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGCCAGGGGCAGTGAAGGCCCCAGGTGGAAGCAGGCGGAAGACATTAGGGATATTTATGACTTCAGAG
 ATGTTCTGGGCACGGGTGCCTTCTCAGAAGTGATCCTGGCAGAGGACAAGAGGACTCAGAACTGGTGGC
 CATCAAATGCATTGCCAAGAAAGCCCTGGAGGGCAAAGAAGGCAGCATGGAGAACGAGATTGCCGTCTTA
 CACAAGATCAAGCACCCCAACATTGTAGCCCTGGATGACATCTATGAGAGTGGGGCCACCTCTACCTCA
 TCATGCAGCTGGTTTCAGGTGGAGAGCTGTTTGACCGAATTGTGGAGAAAGGATTCTACACGGAACGGGA
 TGCCAGCCGCCTCATCTCCAGGTGCTGGATGCTGCAAGTACCTGCACGACCTGGGCATTGTGCACCGG
 GATCTCAAGCCAGAGAACCTGCTGTAACAGTCTGGATGAAGACTCCAAAATCATGATCTCTGACTTTG
 GCCTCTCCAAGATGGAGGACCCAGGCAGTGTGCTCTCCACAGCCTGTGGGACTCCAGGATATGTGGCCCC
 TGAGGTCTGGCCGAGAAGCCCTACAGCAAGGCTGTGGATTGCTGGTCCATAGGAGTCATTGCCTATATA
 CTGCTCTGTGGCTACCCACCTTTTATGATGAAAATGATGCCAACTCTTTGAACAGATTTTGAAGGCAG
 AGTATGAGTTTGACTCTCCTTATTGGGACGACATCTCTGACTCTGCCAAGATTTTCATACGACATTTGAT
 GGAGAAAGACCCGGAGAAGAGGTTTACCTGTGAGCAGGCCTTGCAGCACCCATGGATTGCAGGAGATACA
 GCTCTGGATAAGAATATCCACAGTCAGTGAGCGAGCAGATCAAGAAGAACTTTGCCAAGAGCAAGTGGA
 AGCAAGCTTTCAATGCCACTGCTGTGGTTCGGCACATGAGGAAGCTGCAGCTGGGAACAGTCAGGAGGG
 GCAGGGGCAGACTGGCAGCCACGGGAGCTGCTGACACCAACAGCTGGTGGGCCAGCAGCTGGCTGCTGC
 TGCCGAGACTGCTGTGTGAACAGGCTCGGAAGTGCACCCCTGCACACCCCAAGCTCTAGGGCCATGG
 AT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA



[View online >](#)

Protein Sequence: >MR205800 protein sequence
Red=Cloning site Green=Tags(s)

MPGAVEGPRWKQAEDIRDIYDFRDVLTGAFSEVILAEDKRTQKLVAIKCIAKKALEGKEGSMENEIAVL
 HKIKHPNIVALDDIYESGGHLYLIMQLVSGGELFDRIVEKGFYTERDASRLIFQVLDAVKYLHDLGIVHR
 DLKPENLLYYSLDEDSKIMISDFGLSKMEDPGSVLSTACGTPGYVAPEVLAQKPYSAVDCWSIGVIAYI
 LLCGYPPFYDENDAKLFEQILKAEYEFDSFYWDDISDSAKDFIRHLMKDPKRF TCEQALQHPWIAGDT
 ALDKNIHQSVSEQIKKNFAKSKWKQAFNATAVVRHMRKLQLGTSQEGQGQTGSHGELLTPTAGGPAAGCC
 CRDCCVEPGSELPPAPPPSSRAMD

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_133926

ORF Size: 1125 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_133926.2](#), [NP_598687.1](#)

RefSeq Size: 1434 bp

RefSeq ORF: 1125 bp

Locus ID: 52163

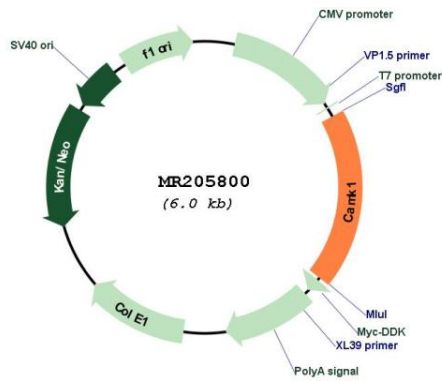
UniProt ID: [Q91YS8](#)

Cytogenetics: 6 52.75 cM

MW: 41.6 kDa

Gene Summary: Calcium/calmodulin-dependent protein kinase that operates in the calcium-triggered CaMKK-CaMK1 signaling cascade and, upon calcium influx, regulates transcription activators activity, cell cycle, hormone production, cell differentiation, actin filament organization and neurite outgrowth. Recognizes the substrate consensus sequence [MVLIF]-x-R-x(2)-[ST]-x(3)-[MVLIF]. Regulates axonal extension and growth cone motility in hippocampal and cerebellar nerve cells. Upon NMDA receptor-mediated Ca(2+) elevation, promotes dendritic growth in hippocampal neurons and is essential in synapses for full long-term potentiation (LTP) and ERK2-dependent translational activation. Downstream of NMDA receptors, promotes the formation of spines and synapses in hippocampal neurons by phosphorylating ARHGEF7/BETAPIX on 'Ser-673', which results in the enhancement of ARHGEF7 activity and activation of RAC1. Promotes neuronal differentiation and neurite outgrowth by activation and phosphorylation of MARK2 on 'Ser-91', 'Ser-92', 'Ser-93' and 'Ser-294'. Promotes nuclear export of HDAC5 and binding to 14-3-3 by phosphorylation of 'Ser-259' and 'Ser-498' in the regulation of muscle cell differentiation. Regulates NUMB-mediated endocytosis by phosphorylation of NUMB on 'Ser-276' and 'Ser-295'. Involved in the regulation of basal and estrogen-stimulated migration of medulloblastoma cells through ARHGEF7/BETAPIX phosphorylation. Is required for proper activation of cyclin-D1/CDK4 complex during G1 progression in diploid fibroblasts. Plays a role in K(+) and ANG2-mediated regulation of the aldosterone synthase (CYP11B2) to produce aldosterone in the adrenal cortex. Phosphorylates EIF4G3/eIF4GII. In vitro phosphorylates CREB1, ATF1, CFTR, MYL9 and SYN1/synapsin I (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR205800