

## Product datasheet for **RC217059**

### **CAMK2G (NM\_172173) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	CAMK2G (NM_172173) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CAMK2G
Synonyms:	CAMK; CAMK-II; CAMKG; MRD59
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC217059 representing NM\_172173  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGCCACCACCGCCACCTGCACCCGTTTCACCGACGACTACCAGCTCTTCGAGGAGCTTGCAAGGGTG  
 CTTTCTCTGTGGTCCGCAGGTGTGTGAAGAAAACCTCCACGCAGGAGTACGCAGCAAAAATCATCAATAC  
 CAAGAAGTTGTCTGCCCGGATCACCAGAACTAGAACGTGAGGCTCGGATATGTCGACTTCTGAAACAT  
 CCAAACATCGTGCCTCCATGACAGTATTTCTGAAGAAGGGTTTCACTACCTCGTGTGGACCTTGTTA  
 CCGGCGGGGAGCTGTTTGAAGACATTGTGGCCAGAGAGTACTACAGTGAAGCAGATGCCAGCCACTGTAT  
 ACATCAGATTCTGGAGAGTGTAAACCACATCCACCAGCATGACATCGTCCACAGGGACCTGAAGCCTGAG  
 AACCTGCTGTGGCGAGTAAATGCAAGGGTGCCGCGTCAAGCTGGCTGATTTTGGCCTAGCCATCGAAG  
 TACAGGGAGAGCAGCAGGCTTGGTTTGGTTTTGCTGGCACCCAGGTTACTTGTCCCTGAGGTCTTGAG  
 GAAAGATCCCTATGGAACCTGTGGATATCTGGCCTGCGGGTCACTCCTGTATATCCTCCTGGTGGGC  
 TATCCTCCCTTCTGGGATGAGGATCAGCACAAGCTGTATCAGCAGATCAAGGCTGGAGCCTATGATTTC  
 CATCACCAGAATGGGACACGGTAACTCCTGAAGCCAAGAATTGATCAACCAGATGCTGACCATAAACCC  
 AGCAAAGCGCATCACGGCTGACCAGGCTCTCAAGCACCCGTGGTCTGTCAACGATCCACGGTGGCATCC  
 ATGATGCATCGTCAGGAGACTGTGGAGTGTTCGCAAGTTCAATGCCCGGAGAAAACCTGAAGGGTGCCA  
 TCCTCACGACCATGCTTGTCTCCAGGAACCTTCAGCTGCCAAAAGCCTATTGAACAAGAAGTCGGATGG  
 CGGTGTCAAGCCACAGAGCAACAACAAAACAGTCTCGAGCCACAACCCTGTGGTACACAACGCTACA  
 GATGGGATCAAGGGCTCCACAGAGAGCTGCAACACCACCACAGAAGATGAGGACCTCAAAGTGCAGAAAC  
 AGGAGATCATTAAAGATTACAGAACAGCTGATTGAAGCCATCAACAATGGGGACTTTGAGGCTACACGAA  
 GATTTGTGATCCAGGCCCTCACTTCTTTGAGCCTGAGGCCCTTGTAACCTCGTGGAGGGGATGGATTTTC  
 CATAAGTTTTACTTTGAGAATCTCCTGTCCAAGAACAGCAAGCCTATCCATACCACCATCTAAACCCAC  
 ACGTCCACGTGATTGGGGAGGACGCAGCGTGCATCGCCTACATCCGCTCACCCAGTACATCGACGGGCA  
 GGGTCCGCTCGCACCAGCCAGTCAGAAGAGACCCGGTCTGGCACCGTCCGGATGGCAAGTGGCTCAAT  
 GTCCTACTACTGCTCAGGGGCCCTGCCGCACCGCTGCAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC217059 representing NM\_172173  
 Red=Cloning site Green=Tags(s)

MATTATCTRFDDYQLFEELGKGAFSVVRRVCVKTSTQEYAAKIINTKKLSARDHQKLEREARICRLLKH  
 PNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIHQILESVNHIHQHDIVHRDLKPE  
 NLLLASKCKGAAVKLAFLAIEVQGEQAWFGFAGTPGYLSPEVLRKDPYGKPVDIWACGVILYILLVG  
 YPPFWDEDQHKLYQQIKAGAYDFPSPEWDTVTPEAKNLINQMLTINPAKRITADQALKHPWVCQRSTVAS  
 MMHRQETVECLRKFNARRKLGAILTTMLVSRNFSAAKSLLNKSDGGVQPQSNKNSLEPQTTVVHNAT  
 DGIKGSTESCNTTTEDEDLKVRKQEI IKITEQLIEAINNGDFEAYTKICDPGLTSFEPEALGNLVEGMDF  
 HKFYFENLLSKNSKPIHTTILNPHVHIGEDAACIAYIRLTQYIDGQGRPRTSQSEETRVWHRDGGKWLN  
 VHYHCSGAPAAPLQ

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mg4105\\_b01.zip](https://cdn.origene.com/chromatograms/mg4105_b01.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_172173

**ORF Size:** 1512 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\\_172173.3](#)

**RefSeq Size:** 3665 bp

**RefSeq ORF:** 1515 bp

**Locus ID:** 818

**UniProt ID:** [Q13555](#)

**Cytogenetics:** 10q22.2

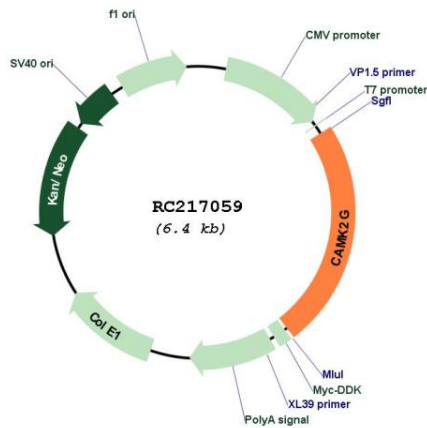
**Protein Families:** Druggable Genome, Protein Kinase

**Protein Pathways:** Calcium signaling pathway, ErbB signaling pathway, Glioma, GnRH signaling pathway, Long-term potentiation, Melanogenesis, Neurotrophin signaling pathway, Olfactory transduction, Oocyte meiosis, Wnt signaling pathway

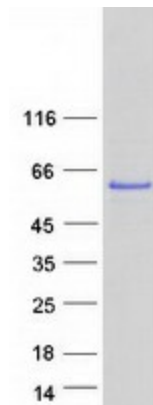
**MW:** 56.8 kDa

**Gene Summary:** The product of this gene is one of the four subunits of an enzyme which belongs to the serine/threonine protein kinase family, and to the Ca(2+)/calmodulin-dependent protein kinase subfamily. Calcium signaling is crucial for several aspects of plasticity at glutamatergic synapses. In mammalian cells the enzyme is composed of four different chains: alpha, beta, gamma, and delta. The product of this gene is a gamma chain. Many alternatively spliced transcripts encoding different isoforms have been described but the full-length nature of all the variants has not been determined.[provided by RefSeq, Mar 2011]

**Product images:**



Circular map for RC217059



Coomassie blue staining of purified CAMK2G protein (Cat# [TP317059]). The protein was produced from HEK293T cells transfected with CAMK2G cDNA clone (Cat# RC217059) using MegaTran 2.0 (Cat# [TT210002]).