

Product datasheet for **RG217059**

CAMK2G (NM_172173) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMK2G (NM_172173) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CAMK2G
Synonyms:	CAMK; CAMK-II; CAMKG; MRD59
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG217059 representing NM_172173
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCCACCACCGCCACCTGCACCCGTTTCACCGACGACTACCAGCTCTTCGAGGAGCTTGCAAGGGTG
 CTTTCTCTGTGGTCCGCAGGTGTGTGAAGAAAACCTCCACGCAGGAGTACGCAGCAAAAATCATCAATAC
 CAAGAAGTTGTCTGCCCGGGATCACCAGAACTAGAACGTGAGGCTCGGATATGTCGACTTCTGAAACAT
 CCAAACATCGTGCCTCCATGACAGTATTTCTGAAGAAGGGTTTCACTACCTCGTGTGGACCTTGTTA
 CCGGCGGGGAGCTGTTTGAAGACATTGTGGCCAGAGAGTACTACAGTGAAGCAGATGCCAGCCACTGTAT
 ACATCAGATTCTGGAGAGTGTAAACCACATCCACCAGCATGACATCGTCCACAGGGACCTGAAGCCTGAG
 AACCTGCTGTGGCGAGTAAATGCAAGGGTGCCGCGTCAAGCTGGCTGATTTTGGCCTAGCCATCGAAG
 TACAGGGAGAGCAGCAGGCTTGGTTTGGTTTTGCTGGCACCCAGGTTACTTGTCCCTGAGGTCTTGAG
 GAAAGATCCCTATGGAACCTGTGGATATCTGGCCTGCGGGGTATCTGTATATCCTCTGGTGGGC
 TATCCTCCCTTCTGGGATGAGGATCAGCACAAGCTGTATCAGCAGATCAAGGCTGGAGCCTATGATTTC
 CATCACCAGAATGGGACACGGTAACTCCTGAAGCCAAGAATTGATCAACCAGATGCTGACCATAAACCC
 AGCAAAGCGCATCACGGCTGACCAGGCTCTCAAGCACCCGTGGTCTGTCAACGATCCACGGTGGCATCC
 ATGATGCATCGTCAGGAGACTGTGGAGTGTTCGCAAGTTCAATGCCCGGAGAAAACCTGAAGGGTGCCA
 TCCTCACGACCATGCTTGTCTCCAGGAACCTTCAGCTGCCAAAAGCCTATTGAACAAGAAGTCGGATGG
 CGGTGTCAAGCCACAGAGCAACAACAAAACAGTCTCGAGCCACAACCCTGTGGTACACAACGCTACA
 GATGGGATCAAGGGCTCCACAGAGAGCTGCAACACCACCACAGAAGATGAGGACCTCAAAGTGCAGAAAAC
 AGGAGATCATTAAAGATTACAGAACAGCTGATTGAAGCCATCAACAATGGGGACTTTGAGGCCTACACGAA
 GATTTGTGATCCAGGCCCTCACTTCTTTGAGCCTGAGGCCCTTGTAACCTCGTGGAGGGGATGGATTTTC
 CATAAGTTTTACTTTGAGAATCTCCTGTCCAAGAACAGCAAGCCTATCCATACCACCATCTAAACCCAC
 ACGTCCACGTGATTGGGGAGGACGCAGCGTGCATCGCCTACATCCGCCTCACCCAGTACATCGACGGGCA
 GGGTCGGCCTCGCACCAGCCAGTCAGAAGAGACCCGGGTCTGGCACCGTGGGATGGCAAGTGGCTCAAT
 GTCCACTACTGCTCAGGGGCCCTGCCGCACCGCTGCAG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG217059 representing NM_172173
 Red=Cloning site Green=Tags(s)

MATTATCTRFDDYQLFEELGKGAFSVVRRVKKTSTQEYAAKIINTKKLSARDHQKLEREARICRLLKH
 PNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIHQILESUNHIIHQHDIVHRDLKPE
 NLLLASKCKGAAVKLADFLAIEVQGEQQAWFGFAGTPGYLSPEVLRKDPYKPVDIWACGVILYILLVG
 YPPFWDEDQHKLYQIKAGAYDFPSPEWDTVTPEAKNLINQMLTINPAKRITADQALKHPWVCQRSTVAS
 MMHRQETVECLRKFNARRKLGAILTTMLVSRNFSAAKSLLNKSDGGVQKPSNNKNSLEPQTTVVHNAT
 DGIKGSTESCNTTTEDEDLKVRKQEI IKITEQLIEAINNGDFEAYTKICDPGLTSFEPEALGNLVEGMDF
 HKFYFENLLSKNSKPIHTTILNPHVHVIGEDAACIAYIRLTQYIDGQGRPRTSQSEETRVWHRDGGKWLN
 VHYHCSGAPAAPLQ

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:

Cloning sites used for ORF Shutting:

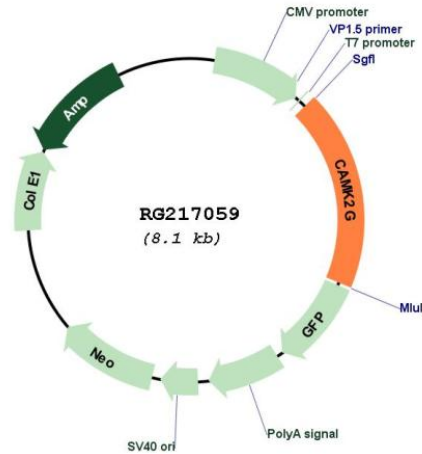


EcoRI BamHI KpnI RBS Kozac Consensus SgfI AscI
 CTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGSAGATCTGCCGCCGATCGCCGGCGCCAGATCT

 HindIII NheI RsrII MluI NotI XhoI GFP Tag
 CAAGCTTAACTAGCTAGCGGACCG ACG CGT ACG CGG CCG CTC GAG ATG GAG AGC GAC --- ---
 T R T R P L E M E S D - - -

 PmeI FseI
 --- GAA GAA AGA GTT TAA ACGGCCGGCCGGGAGCT
 - - E E R V Stop

Plasmid Map:



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:	<ol style="list-style-type: none">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
Gene Summary:	<p>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]</p>