

Product datasheet for **RC222351**

CAMK2G (NM_172170) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMK2G (NM_172170) 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:

>RC222351 representing NM_172170
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGCCACCACCGCCACCTGCACCCGTTTCACCGACGACTACCAGCTCTTCGAGGAGCTTGCAAGGGTG
 CTTTCTCTGTGGTCCGCAGGTGTGTGAAGAAAACCTCCACGCAGGAGTACGCAGCAAAAAATCATCAATAC
 CAAGAAATTGTCTGCCCGGATCACCAGAACTAGAACGTGAGGCTCGGATATGTCGACTTCTGAAACAT
 CCAAACATCGTGCCTCCATGACAGTATTTCTGAAGAAGGGTTTCACTACCTCGTGTGGACCTTGTTA
 CCGGCGGGGAGCTGTTTGAAGACATTGTGGCCAGAGAGTACTACAGTGAAGCAGATGCCAGCCACTGTAT
 ACATCAGATTCTGGAGAGTGTAAACCACATCCACCAGCATGACATCGTCCACAGGGACCTGAAGCCTGAG
 AACCTGCTGCTGGCGAGTAAATGCAAGGGTGCCCGCTCAAGCTGGCTGATTTTGGCCTAGCCATCGAAG
 TACAGGGAGAGCAGCAGGCTTGGTTTGGTTTTGCTGGCACCCAGGTTACTTGTCCCTGAGGTCTTGAG
 GAAAGATCCCTATGGAACCTGTGGATATCTGGCCTGCGGGGTATCTGTATATCCTCTGGTGGGC
 TATCCTCCCTTCTGGGATGAGGATCAGCACAAGCTGTATCAGCAGATCAAGGCTGGAGCCTATGATTTC
 CATCACCAGAATGGGACACGGTAACTCCTGAAGCCAAGAATTGATCAACCAGATGCTGACCATAAACCC
 AGCAAAGCGCATCACGGCTGACCAGGCTCTCAAGCACCCGTGGTCTGTCAACGATCCACGGTGGCATCC
 ATGATGCATCGTCAGGAGACTGTGGAGTGTTCGCAAGTTCAATGCCCGGAGAAAACTGAAGGGTGCCA
 TCCTCACGACCATGCTTGTCTCCAGGAATTCTCAGCTGCCAAAAGCCTATTGAACAAGAACTCGGATGG
 CGGTGTCAAGCCACAGAGCAACAACAAAACAGTCTCGTAAGCCAGCCCAAGAGCCCGCCCTTGCGAG
 ACGGCCATGGAGCCACAAACACTGTGGTACACAACGCTACAGATGGGATCAAGGGCTCCACAGAGAGCT
 GCAACACCACACAGAAGATGAGGACCTCAAAGTGCAGAAACAGGAGATCATTAAAGATTACAGAAGAGCT
 GATTGAAGCCATCAACAATGGGGACTTTGAGGCCTACACGAAGATTTGTGATCCAGGCCTCACTTCTTT
 GAGCCTGAGGCCCTTGGTAACCTCGTGGAGGGATGGATTTCCATAAGTTTTACTTTGAGAACTCCTGT
 CCAAGAACAGCAAGCCTATCCATACCACCATCCTAAACCCACACGTCACGATGTTGGGAGGACGCAGC
 GTGCATCGCTACATCCGCCTCACCCAGTACATCAACGGGAGGGTGGCCTCGCACCAGCCAGTCAGAA
 GAGACCCGGTCTGGCACCGTGGGATGGCAAGTGGCTCAATGTCCACTACTGCTCAGGGGCCCTG
 CCGCACCGCTGCAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC222351 representing NM_172170
 Red=Cloning site Green=Tags(s)

MATTATCTRFTDDYQLFEELGKGAFSVVRRVCVKKTSTQEYAAKIINTKKLSARDHQKLEREARICRLLKH
 PNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYSEADASHCIHQILESVNHIHQHDIVHRDLKPE
 NLLLASKCKGAAVKLADFLAIEVQGEQAWFGFAGTPGYLSPEVLRKDPYKGPVDIWAACGVILYILLVG
 YPPFWDEDQHKLYQKIKAGAYDFPSPEWDTVTPEAKNLINQMLTINPAKRITADQALKHPWVCQRSTVAS
 MMHRQETVECLRKFNARRKLGKAILTTMLVSRNFSAAKSLLNKNSDGGVQPQSNKNSLVSPAQEPAPLQ
 TAMEPQTTVVHNATDGIKSTESCNTTTEDEDLKVRKQEI IKITEQLIEAINNGDFEAYTKICDPGLTSF
 EPEALGNLVEGMDFHKFYFENLLSKNSKPIHTTILNPHVHVIGEDAACIAYIRLTQYINGQGRPRTSQSE
 ETRVWHRRDGKWLNVVHYHCSGAPAAPLQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6476_b03.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_172170

ORF Size: 1554 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_172170.5](#)

RefSeq Size: 3712 bp

RefSeq ORF: 1557 bp

Locus ID: 818

Cytogenetics: 10q22.2

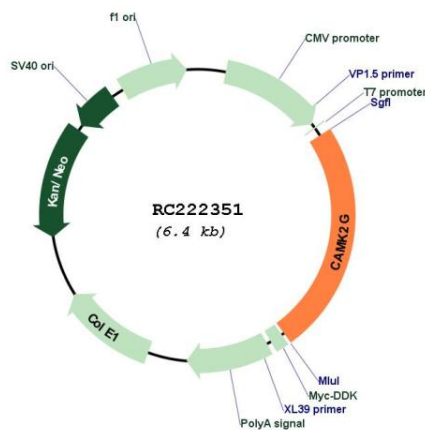
Protein Families: Druggable Genome, Protein Kinase

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

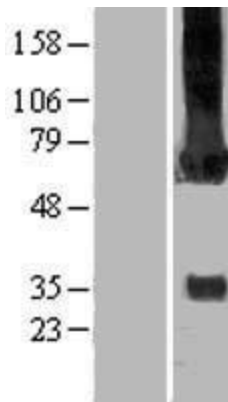
MW: 58.2 kDa

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 RC222351



Western blot validation of overexpression lysate (Cat# [LY406781]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC222351 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).