

Product datasheet for **RC221243**

CAMK2G (NM_001222) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMK2G (NM_001222) 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:

>RC221243 representing NM_001222
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCACCACCGCCACCTGCACCCGTTTCACCGACGACTACCAGCTCTTCGAGGAGCTTGCAAGGGTG
 CTTTCTCTGTGGTCCGCAGGTGTGTGAAGAAAACCTCCACGCAGGAGTACGCAGCAAAAATCATCAATAC
 CAAGAAGTTGTCTGCCCGGGATCACCAGAACTAGAACGTGAGGCTCGGATATGTCGACTTCTGAAACAT
 CCAAACATCGTGCCTCCATGACAGTATTTCTGAAGAAGGGTTTCACTACCTCGTGTGGACCTTGTTA
 CCGGCGGGGAGCTGTTTGAAGACATTGTGGCCAGAGAGTACTACAGTGAAGCAGATGCCAGCCACTGTAT
 ACATCAGATTCTGGAGAGTGTAAACCACATCCACCAGCATGACATCGTCCACAGGGACCTGAAGCCTGAG
 AACCTGCTGTGGCGAGTAAATGCAAGGGTGCCGCGTCAAGCTGGCTGATTTTGGCCTAGCCATCGAAG
 TACAGGGAGAGCAGCAGGCTTGGTTTGGTTTTGCTGGCACCCAGGTTACTTGTCCCTGAGGTCTTGAG
 GAAAGATCCCTATGGAACCTGTGGATATCTGGGCTGCGGGTTCATCCTGTATATCCTCCTGGTGGGC
 TATCCTCCCTTCTGGGATGAGGATCAGCACAAGCTGTATCAGCAGATCAAGGCTGGAGCCTATGATTTC
 CATCACCAGAATGGGACACGGTAACTCCTGAAGCCAAGAATTGATCAACCAGATGCTGACCATAAACCC
 AGCAAAGCGCATCACGGCTGACCAGGCTCTCAAGCACCCGTGGTCTGTCAACGATCCACGGTGGCATCC
 ATGATGCATCGTCAGGAGACTGTGGAGTGTTCGCAAGTTCAATGCCCGGAGAAAACCTGAAGGGTGCCA
 TCCTCACGACCATGCTTGTCTCCAGGAACCTTCAGCTGCCAAAAGCCTATTGAACAAGAAGTCGGATGG
 CGGTGTCAAGGAGCCACAAACACTGTGGTACACAACGCTACAGATGGGATCAAGGGCTCCACAGAGAGC
 TGAAACACCACCACAGAAGATGAGGACCTCAAAGTGCGAAAACAGGAGATCATTAAGATTACAGAACAGC
 TGATTGAAGCCATCAACAATGGGACTTTGAGGCTACACGAAGATTTGTGATCCAGGCCACTACTCCTT
 TGAGCCTGAGGCCCTTGGTAACCTCGTGAGGGGATGGATTTCCATAAGTTTTACTTTGAGAATCTCCTG
 TCCAAGAACAGCAAGCCTATCCATACCACATCCTAAACCCACACGTCACGTCGATTGGGAGGACGCAG
 CGTGCATCGCCTACATCCGCCTACCCAGTACATCGACGGCAGGGTCCGCTCGCACCAGCCAGTCAGA
 AGAGACCCGGGTCTGGCACCGTCGGATGGCAAGTGGCTCAATGTCCACTACTGCTCAGGGGCCCT
 GCCGCACCGCTGCAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC221243 representing NM_001222
 Red=Cloning site Green=Tags(s)

MATTATCTRFDDYQLFEELGKGAFSVVRRVCVKKTSTQEYAAKIINTKKLSARDHQKLEREARICRLLKH
 PNIVRLHDSISEEGFHLYVFDLVTGGELFEDIVAREYYSEADASHCIHQILESVNHIHQHDIVHRDLKPE
 NLLLASKCKGAAVKLADFLAIEVQGEQAWFGFAGTPGYLSPEVLRKDPYGKPVDIWACGVILYILLVG
 YPPFWDEDQHKLYQQIKAGAYDFPSPEWDTVTPEAKNLINQMLTINPAKRITADQALKHPWVCQRSTVAS
 MMHRQETVECLRKFNARRKLGAILTTMLVSRNFSAAKSLLNKSDGGVKEPQTTVVHNATDGIKGSTES
 CNTTTEDEDLKVRKQEI IKITEQLIEA INNGDFEAYTKICDPGLTSFEPEALGNLVEGMDFHKFYFENLL
 SKNSKPIHTTILNPHVHIGEDAACIAYIRLTQYIDGQGRPRTSQSEETRVWHRRDGKWLNVHYHCSGAP
 AAPLQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk8063_d06.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_001222

ORF Size: 1485 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_001222.4](#)

RefSeq Size: 3638 bp

RefSeq ORF: 1488 bp

Locus ID: 818

UniProt ID: [Q13555](#)

Cytogenetics: 10q22.2

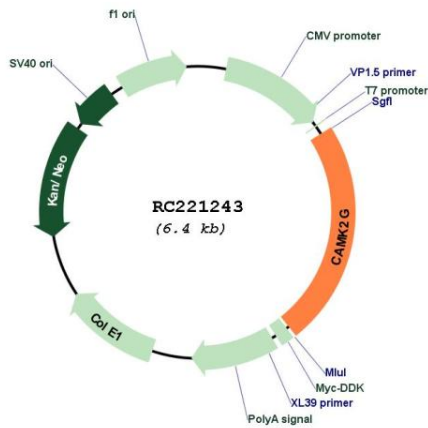
Protein Families: Druggable Genome, Protein Kinase

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

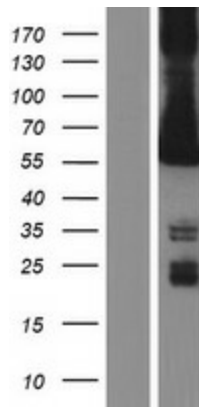
MW: 55.8 kDa

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 RC221243



Western blot validation of overexpression lysate (Cat# [LY420064]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC221243 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).