

Product datasheet for **SC323611**

CAMK2G (NM_172170) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMK2G (NM_172170) Human Untagged Clone
Tag:	Tag Free
Symbol:	CAMK2G
Synonyms:	CAMK; CAMK-II; CAMKG; MRD59
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL6</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >NCBI ORF sequence for NM_172170, the custom clone sequence may differ by one or more nucleotides

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ATGGCCACCACCGCCACCTGCACCCGTTTCACCGACGACTACCAGCTCTTCGAGGAGCTTGCAAGGGTG
CTTTCTCTGTGGTCCGCAGGTGTGTGAAGAAAACCTCCACGCAGGAGTACGCAGCAAAAATCATCAATAC
CAAGAAGTTGTCTGCCCGGGATCACCAGAACTAGAACGTGAGGCTCGGATATGTCGACTCTGAAACAT
CCAACATCGTGCCTCCATGACAGTATTTCTGAAGAAGGGTTTCACTACCTCGTGTGGACCTTGTTA
CCGGCGGGGAGCTGTTTGAAGACATTGTGGCCAGAGAGTACTACAGTGAAGCAGATGCCAGCCACTGTAT
ACATCAGATTCTGGAGAGTGTTAACCACATCCACCAGCATGACATCGTCCACAGGGACCTGAAGCCTGAG
AACCTGCTGTGGCAGTAAATGCAAGGGTGCCGCGTCAAGCTGGCTGATTTTGGCCTAGCCATCGAAG
TACAGGGAGAGCAGCAGGCTTGGTTTGGTTTGTGTCACCCAGGTTACTTGTCCCTGAGGTCTTGAG
GAAAGATCCCTATGAAAACCTGTGGATATCTGGGCTGCGGGTTCATCTGTATATCTCCTGTGGGC
TATCCTCCCTTCTGGGATGAGGATCAGCACAAGCTGTATCAGCAGATCAAGGCTGGAGCCTATGATTCC
CATCACCAGAATGGGACACGGTAACTCCTGAAGCCAAGAATTGATCAACCAGATGCTGACCATAAACCC
AGCAAAGCGCATACGGCTGACCAGGCTCTCAAGCACCCGTGGTCTGTCAACGATCCACCGTGGCATCC
ATGATGCATCGTCAAGGACTGTGGAGTGTTCGCAAGTTCAATGCCCGGAGAAAACCTGAAGGGTGCCA
TCCTCACGACCATGCTTGTCTCCAGAACTTCTCAGCTGCCAAAAGCCTATTGAACAAGAAGTCGGATGG
CGGTGTCAAGCCACAGAGCAACAACAAAACAGTCTCGTAAGCCAGCCCAAGAGCCCGCGCCCTTGCA
ACGGCCATGGAGCCACAAACCACTGTGGTACACAACGCTACAGATGGGATCAAGGGCTCCACAGAGAGCT
GCAACACCACACAGAAGATGAGGACCTCAAAGTGCAGAAAACAGGAGATCATTAGATTACAGAACAGCT
GATTGAAGCCATCAACAATGGGGACTTTGAGGCTACACGAAGATTTGTGATCCAGGCTCACTTCTCTT
GAGCCTGAGGCCCTTGGTAACCTCGTGGAGGGATGGATTTCCATAAGTTTACTTTGAGAATCTCCTGT
CCAAGAACAGCAAGCCTATCCATACCACCTCCTAAACCCACACGTCCAGTGATTGGGGAGGACGCAGC
GTGCATCGCTACATCCGCTCACCCAGTACATCGACGGGAGGGTCCGCTCGCACCAGCCAGTCAGAA
GAGACCCGGTCTGGCACCGTGGGATGGCAAGTGGCTCAATGTCCACTACTGCTCAGGGGCCCTG
CCGCACCCTGCAGTGA
    
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5' Read Nucleotide Sequence: >OriGene 5' read for mutant NM_172170 unedited

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ACCGCCCGTTGAGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGA
ACCGTCAGAAATTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGGTCCGGCGGGCT
GCACCGCCCGCTCCGCCCGCCGAGCATGGCCACCACCGCCACCTGCACCCGTTTCACCGACGACTAC
CAGCTCTTCGAGGAGCTTGCAAGGGTGTCTTCTGTGGTCCGCAGGTGTGTGAAGAAAACCTCCACGC
AGGAGTACGCAGCAATGATCATCAATACCAAGAAGTTGTCTGCCCGGGATCACCCAGAAAACCTAGAACGG
GGAGGCTCGGATATGTCGACTTCTGAAAACATCCAAAACATCGGTGCCGCTCCCATGAACAGTTATTTT
TTGAAGAAGGGTTTCACTACCTTGTGTTTGGACCTTGTACCGGCGGGGAAAGCTTGTGGAAGACTTT
GTGGCCAGAGAGTACTACAGTGAACAGGATGCCAGCCCTGGTATACTTCGATTCTGGGAGAGTGTTAACC
CCTTCCCCCAGATTGACTTTGTCCAGGGACCTGACCTTGAGAACGGGTTGCGGGCGATTAAAGGCAGGG
GTGCGCCCTAAGCTGGCTGATTTGGCCTACCCTCAATTACGGGGAGAGCACGCGCTTGTGGTTGTGTGG
CACCAGTCTACTTGCCCGAGTGTGTGGAGAGCTCTGGGAACCCTGTGAATCTGGCTCGCGGCATCTCTG
TAACCCCGTGGCGACATCTCTGGGAGAGATACACACAGTTCACTAACGGGGCCCTATCTCCCCATGAG
CAGTATCTGGACGCAATGTTACACGGGCTATCAGACATCTGTCCACTTTAACCTGATGTAA
    
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Kinase Domain Sequence: >SC323611 kinase domain raw sequence. By performing [BLASTX](#) analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation

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AYRTTMMRMAAWGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACMRK
CAGAAATTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGGTCCGGCGGGCTGCACC
GCCGCTCCGCCCGCCGAGCATGGCCACCACCGCCACCTGCACCCGTTTCACCGACGACTACCAGCT
CTTCRAGGAGCTTGGCAWGGTGTCTTCTGTGGTCCGCAGGTG
    
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Restriction Sites: Please inquire

ACCN:	NM_172170
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
OTI Annotation:	This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." Cell. 2008 May p536-548.
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_172170.2 , NP_751910.1
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

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]

Transcript Variant: This variant (3) lacks an in-frame segment of the coding region, compared to variant 1. It encodes a shorter isoform (3), that is missing an internal segment compared to isoform 1. Variants 3 and 50 both encode the same isoform (3). Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.