

Product datasheet for **SC111598**

CAMK2A (NM_015981) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMK2A (NM_015981) Human Untagged Clone
Tag:	Tag Free
Symbol:	CAMK2A
Synonyms:	CAMKA; CaMKIIalpha; CaMKIINalpha; MRD53; MRT63
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF: >OriGene ORF sequence for NM_015981 edited
 ATGGCCACCATCACCTGCACCCGCTTCACGGAAGAGTACCAGCTTTCGAGGAATTGGGC
 AAGGGAGCCTTTCGGTGGTGCGAAGGTGTGTGAAGGTGCTGGCTGGCCAGGAGTATGCT
 GCCAAGATCATCAACACAAGAAGCTGTGAGCCAGAGACCATCAGAAGCTGGAGCGTGAA
 GCCCGCATCTGCCGCTGCTGAAGCACCCCAACATCGTCCGACTACATGACAGCATCTCA
 GAGGAGGGACACCACTACCTGATCTTCGACCTGGTCACTGGTGGGGAAGTGTGAAAGAT
 ATCGTGGCCCGGAGTATTACAGTGAGGCGGATGCCAGTCACTGTATCCAGCAGATCCTG
 GAGGCTGTGCTGCACTGCCACCAGATGGGGTGGTGCACCGGGACCTGAAGCCTGAGAAT
 CTGTTGCTGGCCTCCAAGCTCAAGGGTCCCGCAGTGAAGCTGGCAGACTTGGCCTGGCC
 ATAGAGGTGGAGGGGAGCAGCAGGCATGGTTTGGTTTGCAGGGACTCCTGGATATCTC
 TCCCCAGAAGTGTGCGGAAGGACCCGTACGGGAAGCCTGTGGACCTGTGGGCTTGTGGG
 GTCATCCTGTACATCCTGCTGGTTGGGTACCCCGTTCTGGGATGAGGACCAGCACCGC
 CTGTACCAGCAGATCAAAGCCGGCGCCTATGATTTCCCATCGCCGGAATGGGACACTGTC
 ACCCCGGAAGCCAAGGATCTGATCAATAAGATGCTGACCATTAACCCATCCAAACGCATC
 ACAGCTGCCGAAGCCCTTAAGCACCCCTGGATCTCGCACCGCTCCACCGTGGCATCCTGC
 ATGCACAGACAGGAGACCGTGGACTGCCTGAAGAAATTCAATGCCAGGAGGAAATGAAG
 GGAGCCATTCTCACCACGATGCTGGCCACCAGGAATCTCCGGAGGGAAGAGTGGGGGA
 AACAAAGAGCGATGGTGTGAAGGAATCCTCAGAGAGCACCAACACCACCATCGAGGAT
 GAAGACACCAAAGTGCGGAAACAGGAAATATAAAAGTGACAGAGCAGCTGATTGAAGCC
 ATAAGCAATGGAGATTTTGAAGTCTACACGAAGATGTGCGACCCCTGGCATGACAGCCTTC
 GAACCTGAGGCCCTGGGGAACCTGGTTGAGGGCCTGGACTTCCATCGATTCTATTTTGA
 AACCTGTGGTCCCGAACAGCAAGCCCGTGCACACCACCATCCTGAATCCCCACATCCAC
 CTGATGGGCGACGAGTACGCTGCATCGCTACATCCGCATCACGCAGTACCTGGACGCT
 GCGGCGATCCCACGCACCCAGTCCGAGGAGACCCGTGTGTCACCGCCGGGACGGC
 AAATGGCAGATCGTCCACTTCCACAGATCTGGGGCCCTCCGCTGCCCCACTGA



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5' Read Nucleotide Sequence:

>OriGene 5' read for NM_015981 unedited
 TTTGTAATACGACTCACTATAGGGCGGCCGGAATACTGCACGAGGCGGTTCTCTGTTTG
 CACTCGGCAGCACGGGCAGGCAAGTGGTCCCTAGGTTCCGGAGCAGAGCAGCAGCGCCTC
 AGTCCTGGTCCCCAGTCCCAAGCCTCACCTGCCTGCCAGCGCCAGGATGGCCACCATC
 ACCTGCACCCGCTTCACGGAAGAGTACCAGCTCTTCGAGGAATTGGCAAGGGAGCCTTC
 TCGGTGGTGCGAAGGTGTGTGAAGGTGCTGGCTGGCCAGGAGTATGCTGCCAAGATCATC
 AACACAAAGAAGCTGTACGCCAGAGACCATCAGAAGCTGGAGCGTGAAGCCCGCATCTGC
 CGCTTGCTGAAGCACCCCAACATCGTCCGACTACATGACAGCATCTCAGAGGAGGGACAC
 CACTACCTGATCTTCGACCTGGTCACTGGTGGGAACTGTTTGAAGATATCGTGGCCCGG
 GAGTATTACAGTGAGGCGGATGCCAGTCACTGTATCCAGCAGATCCTGGAGGCTGTGCTG
 CACTGCCACCAGATGGGGTGGTGCACCGGGACCTGAAGCCTGAGAATCTGTTGCTGGCC
 TCCAAGCTCAATGGTGCCGAGTGAAGCTGGCAGACTTTGGCCTGCCATACAGGTGGAGG
 GGGAGCAACAAGCATGGTTTGCCTTTGTAGGGACTTCTGGATATCTCTCCCCATAAGTGC
 TGCCGCAAGACCCCGCCGAAAGCCTGGGGACCTGTGGGCTGTGGGTATCCTGTACAT
 CCTGCTGGGTGGGCACCCCGGTCTTGAAGAGGACCAACACCCTGTACCAGACAACA
 AAGCGGCCCTAGAATCCCATCCGAATGGGCACTGCCCCCGAGCCAAGATTGGTAA
 TAAA

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_015981 unedited
 GGCCGCAATCTAGAGTCGAGTTTTTTTTTTTTTTTTTTTTGGTTTCAACATACTTACTGCGT
 ATAAAGTCATGCAAAGAAAACAGTGCAGACAGTAGATCCTAGTGGATGTGCCAAGGTATT
 CCACTCAGAGTCAATCCCAGGGAAAGAGGGAAAGAGGAAAAGAAAGAGAGAATGCGAACC
 CGAGGCTGCAGGATGAGGCATGAAGAGTAGAAATCCCACTGCTTTGCTGTGGTCATCAG
 ACGCCAAGGGGAGAGAGGCAATGAAGACACACGCTCACGGGCCCCCAAAAGTGGGTGGG
 GGGTGTGGGGGCGCACACAGATATGGTGAGATGAAATCCTGGGAAGTTCGGTAGAGAA
 GACCCAGTTTGCAGGGGAAGCAAAGAAAAGTCCAGGTATTTCCATCCTGACAGCCTCCC
 TCCTCCTCTCTGCCCTGACTTGCTGTTCCCTGAGTCAGTGTGGCATCTGATGCTTCCACA
 GTCCCAAAAGGAACGCCTGTGTGCTCAGTCACTTGGGACCGAAATGGCAGAGAGGCCCTTC
 TCCCGGAGCTGAGTCCGCTTGGCCCCAATAACCACAGGTGACAAGGTCCACCTCAGAG
 ATGACAAAAAAGAAAAAAGTAAACAGAAAAAAGTAAACAGAAAAAAGTAAACAGAAAAA
 ACCCTTCCAACTGACCTTCTCACATAATCTGAGAAGTCTAGTTATTACATAAATA
 TCCATTAACGCGAAATCCATTTACGAAATACACAGAAATTTGGCTATAAAAAGCATGCGG
 GCCAAGTAGAAGTGATACCTAAACGTTGCTTTCTTTTGGCCCCAAAACAATTAGATTCC
 CTCCTGAGATCGACAAGCTGGAATTTCCAGGATGACGGGGTGGGTGGGCAGTAATGTTG
 GAGGGCACTTCACACAAGAGCAAAGCCGTGGGGCCCTGAAGGCCCATCCCACCGGGGAG
 GTCACCCCT

Restriction Sites:

NotI-NotI

ACCN:

NM_015981

Insert Size:

3000 bp

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).

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_015981.2](#), [NP_057065.2](#)

RefSeq Size: 4836 bp

RefSeq ORF: 1470 bp

Locus ID: 815

Cytogenetics: 5q32

Domains: pkinase, TyrKc, S_TKc

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 belongs to the serine/threonine protein kinases family, and to the Ca(2+)/calmodulin-dependent protein kinases subfamily. Calcium signaling is crucial for several aspects of plasticity at glutamatergic synapses. This calcium-calmodulin-dependent protein kinase is composed of four different chains: alpha, beta, gamma, and delta. The alpha chain encoded by this gene is required for hippocampal long-term potentiation (LTP) and spatial learning. In addition to its calcium-calmodulin (CaM)-dependent activity, this protein can undergo autophosphorylation, resulting in CaM-independent activity. Several transcript variants encoding distinct isoforms have been identified for this gene. [provided by RefSeq, Jun 2018]

Transcript Variant: This variant (1) differs in the 5' UTR compared to variant 3. Variants 1 and 3 both encode the same isoform (1). Sequence Note: The RefSeq transcript and protein were derived from transcript and genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.