

## Product datasheet for **SC109004**

### CAMK2B (NM\_172078) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CAMK2B (NM_172078) Human Untagged Clone
Tag:	Tag Free
Symbol:	CAMK2B
Synonyms:	CAM2; CAMK2; CAMKB; CaMKIIbeta; MRD54
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL5</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)

**Fully Sequenced ORF:** >OriGene ORF sequence for NM\_172078 edited  
 ATGGCCACCACGGTGACCTGCACCCGCTTACCAGCAGTACCAGCTCTACGAGGATATT  
 GGCAAGGGGGCTTTCTCTGTGGTCCGACGCTGTGTCAAGCTCTGCACCGCCATGAGTAT  
 GCAGCCAAGATCATCAACACCAAGAAGCTGTCCAGCCAGAGATCACCAGAAGCTGGAGAGA  
 GAGGCTCGGATCTGCCGCCTTCTGAAGCATTCCAACATCGTGCCTCTCCACGACAGCATC  
 TCCGAGGAGGGCTTCCACTACCTGGTCTTCGATCTGGTCACTGGTGGGAGCTCTTTGAA  
 GACATTGTGGCGAGAGAGTACTACAGCGAGGCTGATGCCAGTCACTGTATCCAGCAGATC  
 CTGGAGGCCGTTCTCCATTGTCAACAAATGGGGTTCGTCACAGAGACCTCAAGCCGGAG  
 AACCTGCTTCTGGCCAGCAAGTCAAAAGGGGCTGCAGTGAAGCTGGCAGACTTCGGCCTA  
 GCTATCGAGGTGCAGGGGACCAGCAGGCATGGTTTGGTTTCGCTGGCACACCAGGCTAC  
 CTGTCCCCTGAGGTCCTTCGCAAAGAGGGGTACGGCAAGCCCGTGGACATCTGGGCATGT  
 GGGGTGATCCTGTACATCCTGCTCGTGGGCTACCCACCCTTCTGGGACGAGGACCAGCAC  
 AAGCTGTACCAGCAGATCAAGGCTGGTGCCTATGACTTCCCGTCCCTGAGTGGGACACC  
 GTCACCTCTGAAGCCAAAACCTCATCAACCAGATGCTGACCATCAACCCTGCCAAGCGC  
 ATCACAGCCCATGAGGCCCTGAAGCACCCGTGGGTCTGCCAACGCTCCACGGTAGCATCC  
 ATGATGCACAGACAGGAGACTGTGGAGTGTCTGAAAAAGTTCAATGCCAGGAGAAAGCTC  
 AAGGGAGCCATCCTCACCACCATGCTGGCCACACGGAAATTTCTCAGCCAAGAGTTTACTC  
 AACAAAGAAAGCAGATGGAGTCAAGCCCCAGACGAATAGCACAAAAACAGTGCAGCCGCC  
 ACCAGCCCCAAAGGGACGCTTCTCCTGCCGCCCTGGAGCCTCAAACCACCGTCAATCCAT  
 AACCCAGTGGACGGGATTAAGGAGTCTTCTGACAGTGCCAATACCACCATAGAGGATGAA  
 GACGCTAAAGCCCGAAGCAGGAGATCATTAAAGACCACGGAGCAGCTCATCGAGGCCGTC  
 AACACGGTGACTTTGAGGCTACGCGAAAATCTGTGACCAGGGCTGACCTCGTTTGAG  
 CCTGAAGCACTGGGCAACCTGGTTGAAGGGATGGACTTCCACAGATTCTACTTCGAGAAC  
 CTGCTGGCCAAGAACAGCAAGCCGATCCACACGACCATCCTGAACCCACACGTGCACGTC  
 ATTGGAGAGGATGCCGCTGCATCGTTACATCCGGCTCACGCAGTACATTGACGGGCAG  
 GGCCGGCCCCGCACCAGCCAGTCTGAGGAGACCCGCGTGTGGCACCGCCGCGACGGCAAG  
 TGGCAGAACGTGCACTTCCACTGCTCGGGCGCGCTGTGGCCCCGCTGCAGTGA



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<b>5' Read Nucleotide Sequence:</b>	<p>&gt;OriGene 5' read for NM_172078 unedited            CAAAACCCCTTCGCACGAGGCGGGAGCCGGAGTCGCCGCCGCCGAGCGCAGCCGAGCGCA            CGCCGAGCCCGTCCGCCGCCGCATGGCCACCACGGTGACCTGCACCCGCTTCACCGACG            AGTACCAGCTCTACGAGGATATTGGCAAGGGGGCTTTCTCTGTGGTCCGACGCTGTGCA            GTTCTGCACCCGGCCATGAGTATGCAGCCAAGATCATCAACACCAAGAAGCTGTACGCCAG            AGATCACCAGAAGCTGGAGAGAGAGGCTCGGATCTGCCGCCTTCTGAAGCATTCCAACAT            CGTGGCTCTCACGACAGCATCTCCGAGGAGGGCTTCCACTACCTGGTCTTCGATCTGGT            CACTGGTGGGGAGCTCTTTGAAGACATTGTGGCGAGAGAGTACTACAGCGAGGCTGATGC            CAGTCACTGTATCCAGCAGATCCTGGAGGCCGTTCTCCATTGTCACCAAATGGGGTCTGT            CCACAGAGACCTCAAGCCGGAGAACCTGCTTCTGGCCAGCAAGTCAAAGGGGCTGCAGT            GAAGCTGGCAGACTTCGGCTAGCTATCGAGGTGCAGGGGGACCAGCAGGCATGGTTTGG            TTTGCTGGCACACCAGGCTACCTGTCCCCTGAGTCTTCGCAAAGAGGCGTACGGCAA            GCCCGTGGACATCTGGGCATGTGGGTGATCCTGTACATCCTGCTCGTGGGCTACCCACC            CTTCTGGGACGAAGACCAGCACAAGCTGTACCAGCAGATCAAGGCTTGTGCCTATGACTT            CCCGTCCTGATTGGAACACGTCACCTTCTGAGCCAAAACCTCATTAAACAAATGCTTGC            CATAAACCTGCCAAGCGCATAAAAGCCCATGAGGCCCTGGAACCCCGTGGTTTGCCAAC            CCTCC</p>
<b>3' Read Nucleotide Sequence:</b>	<p>&gt;OriGene 3' read for NM_172078 unedited            GCAATCTAGAGTCGAGTTTTTTTTTTTTTTTTTTTTTTGGTTTTTTTTTAACAAATCACATCTGG            TCTTGTTTTTCTGCAGACACAGGCACCAGGGGAGGGAACGAGGCAGACACAAACATGCGA            CAGGCAGGCCGTGTCCCGAGGGCAGTCGGGCTCAAACACCAACTCTGTCCGGCGAAAC            CAGGGCGCAGCTTCTACTGCAGCGGGCCACAGGCGCGCCGAGCAGTGAAGTGCACG            TTCTGCCACTTGCCGTCGCGGGTGCACACGCGGGTCTCCTCAGACTGGCTGGTGGG            GGCCGGCCCTGCCGTCATGTACTGCGTGAGCCGGATGTAAGCGATGCAGGCGGCATCC            TCTCAAATGACGTGCACGTGTGGGTTTCAAGATGGTTCGTGTGGATCGGCTTGTCTTGG            GCCAGCAGGTTCTCGAAGTAGAATCTGTGGAAGTCCATCCCTTCAACCAGGTTGCCAGT            GCTTCAGGCTCAAACGAGGTGAGCCCTGGGTCACAGATTTTCGCGTAGGCCTCAAAGTCA            CCGTTGTTGACGGCCTCGATGAGCTGCTCCGTGGTCTTAATGATCTCCTGCTTCCGGGCT            TTAGCGTCTTTCATCCTCTATGGTGGTATTGGCACTGTCAGAAGACTCCTTAATCCCGTCC            ATTGNNGTATGGATGACGGTGGTTTGGAGCTCCAGGGCGCGAGGAGGAAGCGTCCCTTTG            GGCTCGTGGCGCTGCACTGTTTTGGGCTATTCTGCTGGGCTTACTCCATCTGCTTTT            TTGTTGAGTAAACTCTTGCTGAAAAATTCGTGTGGCCAGCATTGTTGTAAGGATGGC            CTCCTTTGACCTTCTCCTGCATTGACCTTTTTCAGAACCTCCCAATCTCCTGGTTGGCAT            CAAGCAGCTACGGGGAACGTTGGCAAACCACCGTGCCACGGCCTAAGGGCCGTAAGCCT            TGCCAGGGTGATGCACCATGTGGGAGCAAGCTTTGGCTAAAAG</p>
<b>Restriction Sites:</b>	NotI-NotI
<b>ACCN:</b>	NM_172078
<b>Insert Size:</b>	1920 bp
<b>OTI Disclaimer:</b>	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).
<b>Components:</b>	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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u>NM_172078.1, NP_742075.1</u>
<b>RefSeq Size:</b>	2066 bp
<b>RefSeq ORF:</b>	1629 bp
<b>Locus ID:</b>	816
<b>UniProt ID:</b>	<u>Q13554</u>
<b>Cytogenetics:</b>	7p13
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	Calcium signaling pathway, ErbB signaling pathway, Glioma, GnRH signaling pathway, Long-term potentiation, Melanogenesis, Neurotrophin signaling pathway, Olfactory transduction, Oocyte meiosis, Wnt signaling pathway
<b>Gene Summary:</b>	<p>The product of this gene 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 beta chain. It is possible that distinct isoforms of this chain have different cellular localizations and interact differently with calmodulin. Alternative splicing results in multiple transcript variants. [provided by RefSeq, May 2014]</p> <p>Transcript Variant: This variant (2) lacks an in-frame segment of the coding region, compared to variant 1. It encodes a shorter isoform (2) that is missing an internal segment compared to isoform 1. Variants 2 and 9 encode the same protein (isoform 2). 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.</p>