

## Product datasheet for **RC218145**

### **CAMK2B (NM\_172078) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	CAMK2B (NM_172078) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CAMK2B
Synonyms:	CAM2; CAMK2; CAMKB; CaMKIIbeta; MRD54
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC218145 representing NM\_172078  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCACCACGGTGACCTGCACCCGCTTCACCGACGAGTACCAGCTCTACGAGGATATTGGCAAGGGG  
 CTTTCTCTGTGGTCCGACGCTGTGTCAAGCTCTGCACCGCCATGAGTATGCAGCCAAGATCATCAACAC  
 CAAGAAGCTGTCAGCCAGAGATCACCAGAAGCTGGAGAGAGAGGCTCGGATCTGCCGCCCTCTGAAGCAT  
 TCCAACATCGTGCCTCCACGACAGCATCTCCGAGGAGGGCTTCCACTACCTGGTCTTCGATCTGGTCA  
 CTGGTGGGAGCTCTTTGAAGACATTGTGGCGAGAGAGTACTACAGCGAGGCTGATGCCAGTCACTGTAT  
 CCAGCAGATCCTGGAGGCCGTTCTCCATTGTACCAAATGGGGTCTCCACAGAGACCTCAAGCCGGAG  
 AACCTGCTTCTGGCCAGCAAGTCAAAGGGGCTGCAGTGAAGCTGGCAGACTTCGGCCTAGCTATCGAGG  
 TGCAGGGGACCAGCAGGCATGGTTTGGTTTCGCTGGCACACCAGGCTACCTGTCCCCTGAGGTCCTTCG  
 CAAAGAGCGGTACGGCAAGCCCCTGGACATCTGGGCATGTGGGTGATCCTGTACATCCTGCTCGTGGG  
 TACCCACCTTCTGGGACGAGGACCAGCACAAAGCTGTACCAGCAGATCAAGGCTGGTGCCTATGACTTCC  
 CGTCCCCTGAGTGGGACACCGTCACTCCTGAAGCCAAAAACCTCATCAACCAGATGCTGACCATCAACCC  
 TGCCAAGCGCATCACAGCCATGAGGCCCTGAAGCACCCGTGGTCTGCCAACGCTCCACGGTAGCATCC  
 ATGATGCACAGACAGGAGACTGTGGAGTGTCTGAAAAAGTTCAATGCCAGGAGAAAGCTCAAGGGAGCCA  
 TCCTCACCACCATGTGGCCACACGGAATTTCTCAGTGGGCGAGACAGACCACCGCTCCGGCCACAATGTC  
 CACCGCGGCTCCGGCACCACCATGGGGCTGGTGAACAAGCCAAGAGTTTACTCAACAAGAAAGCAGAT  
 GGAGTCAAGCCCCAGACGAATAGCACAAAAACAGTGCAGCCGCCACCAGCCCCAAAGGGACGCTTCCTC  
 CTGCCGCCCTGGAGCCTCAAACCACCGTCAATCCATAACCCAGTGGACGGGATTAAGGAGTCTTCTGACAG  
 TGCCAATACCACCATAGAGGATGAAGACGCTAAAGCCCGGAAGCAGGAGATCATTAAAGACCACGGAGCAG  
 CTCATCGAGGCCGTCACAACGGTGACTTTGAGGCCTACGCGAAAATCTGTGACCCAGGGCTGACCTCGT  
 TTGAGCCTGAAGCACTGGGCAACCTGGTTGAAGGGATGGACTTCCACAGATTCTACTTCGAGAACCTGCT  
 GGCCAAGAACAGCAAGCCGATCCACACGACCATCCTGAACCCACAGTGCACGTCATTGGAGAGGATGCC  
 GCCTGCATCGTTACATCCGGCTCACGCAGTACATTGACGGGCAGGGCCGGCCCCGACCAGCCAGTCTG  
 AGGAGACCCGCGTGTGGCACCGCCGCGACGGCAAGTGGCAGAACGTGCACCTCCACTGCTCGGGCGCGCC  
 TGTGGCCCCGCTGCAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC218145 representing NM\_172078  
 Red=Cloning site Green=Tags(s)

MATTVTCTRFTDEYQLYEDIGKAFSVVRRVCVKLCTGHEYAAKIINTKKLSARDHQKLEREARICRLLKH  
 SNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIQQILEAVLHCHQMGVVRDLKPE  
 NLLLLASKCKGAAYKLADFLAIEVQGDQQAQWFGFAGTPGYLSPEVLRKEAYGKPVDIWACGVILYILLVG  
 YPPFWDEDQHKLYQQIKAGAYDFPSPEWDTVTPEAKNLINQMLTINPAKRITAEALKHPWVCQRSTVAS  
 MMHRQETVECLKKFNARRKLGAILTTMLATRNFSVGRQTTAPATMSTAASGTTMGLVEQAKSLLNKKAD  
 GVKPQNTSTKNSAAATSPKGTLPAALEPQTTVIHNPVDGIKESSDSANTTIEDEDAKARKQEI IKTTEQ  
 LIEAVNNGDFEAYAKICDPGLTSFEPEALGNLVEGMDFHRYFENLLAKNSKPIHTTILNPHVHVIGEDA  
 ACIAYIRLTQYIDGQRPRTSQSEETRVWHRRDGKWQNVHFHCSGAPVAPLQ

**TR**TRPLEQKLI SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mg4266\\_e01.zip](https://cdn.origene.com/chromatograms/mg4266_e01.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_172078

**ORF Size:** 1626 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\\_172078.3](#)

**RefSeq Size:** 2066 bp

**RefSeq ORF:** 1629 bp

**Locus ID:** 816

**UniProt ID:** [Q13554](#)

**Cytogenetics:** 7p13

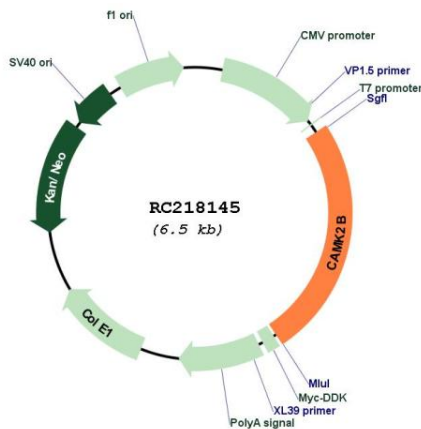
**Protein Families:** Druggable Genome, Protein Kinase

**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

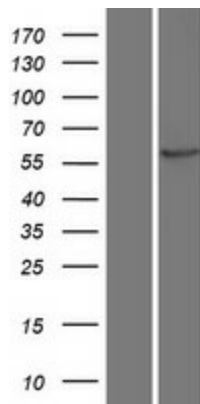
**MW:** 60.2 kDa

**Gene Summary:** 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]

**Product images:**



Circular map for RC218145



Western blot validation of overexpression lysate (Cat# [LY406822]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218145 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).