

Product datasheet for **RC218194**

CAMK2B (NM_172079) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMK2B (NM_172079) 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:

>RC218194 representing NM_172079
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCACCACGGTGACCTGCACCCGCTTCACCGACGAGTACCAGCTCTACGAGGATATTGGCAAGGGG
 CTTTCTCTGTGGTCCGACGCTGTGTCAAGCTCTGCACCGCCATGAGTATGCAGCCAAGATCATCAACAC
 CAAGAAGCTGTCAGCCAGAGATCACCAGAAGCTGGAGAGAGAGGCTCGGATCTGCCGCCCTCTGAAGCAT
 TCCAACATCGTGCCTCCACGACAGCATCTCCGAGGAGGGCTTCCACTACCTGGTCTTCGATCTGGTCA
 CTGGTGGGGAGCTCTTTGAAGACATTGTGGCGAGAGAGTACTACAGCGAGGCTGATGCCAGTCACTGTAT
 CCAGCAGATCCTGGAGGCCGTTCTCCATTGTACCAAATGGGGTCTCCACAGAGACCTCAAGCCGGAG
 AACCTGCTTCTGGCCAGCAAGTCAAAGGGGCTGCAGTGAAGCTGGCAGACTTCGGCCTAGCTATCGAGG
 TGCAGGGGACCAGCAGGCATGGTTTGGTTTCGCTGGCACACCAGGCTACCTGTCCCTGAGGTCCTTCG
 CAAAGAGCGGTATGGCAAGCCTGTGGACATCTGGGCATGTGGGTGATCCTGTACATCCTGCTCGTGGC
 TACCCACCTTCTGGGACGAGGACCAGCACAAGCTGTACCAGCAGATCAAGGCTGGTGCCTATGACTTCC
 CGTCCCCTGAGTGGGACACCGTCACTCCTGAAGCCAAAAACCTCATCAACCAGATGCTGACCATCAACCC
 TGCCAAGCGCATCACAGCCATGAGGCCCTGAAGCACCCGTGGTCTGCCAACGCTCCACGGTAGCATCC
 ATGATGCACAGACAGGAGACTGTGGAGTGTCTGAAAAAGTTCAATGCCAGGAGAAAGCTCAAGGGAGCCA
 TCCTCACCACCATGCTGGCCACACGGAATTTCTCAGCAGCCAAGAGTTTACTCAACAAGAAAGCAGATGG
 AGTCAAGCCCAGACGAATAGCACAAAAACAGTGCAGCCGCCACCAGCCCCAAAGGGACGCTTCTCCTCT
 GCCGCCCTGGAGCCTCAAACCACCGTCAATCCATAACCCAGTGGACGGGATTAAGGAGTCTTCTGACAGTG
 CCAATACCACCATAGAGGATGAAGACGCTAAAGCCCGGAAGCAGGAGATCATTAAAGACCAGGAGCAGCT
 CATCGAGCCGTCACAACGGTGACTTTGAGGCCCTACGGAAAAATCTGTGACCCAGGGCTGACCTCGTTT
 GAGCCTGAAGCACTGGGCAACCTGGTTGAAGGGATGGACTTCCACAGATTCTACTTCGAGAACCTGCTGG
 CCAAGAACAGCAAGCCGATCCACACGACCATCCTGAACCCACACGTGCACGTATTGGAGAGGATGCCGC
 CTGCATCGCTTACATCCGGCTCACGCAGTACATTGACGGGCAGGGCCGGCCCCGACCAGCCAGTCTGAG
 GAGACCCGCGTGTGGCACCGCCGACGGCAAGTGGCAGAACGTGCACTTCCACTGCTCGGGCGCGCCTG
 TGGCCCCGCTGCAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC218194 representing NM_172079
 Red=Cloning site Green=Tags(s)

MATTVTCTRFTDEYQLYEDIGKGAFSVRRRCVKLCTGHEYAAKIINTKKLSARDHQKLEREARICRLLKH
 SNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIQQILEAVLHCHQMGGVHRDLKPE
 NLLLASKCKGAAVKLADFLAIEVQGDQAWFGFAGTPGYLSPEVLRKEAYGKPVDIWACGVILYILLVG
 YPPFWDEDQHKLYQIKAGAYDFPSPEWDTVTPEAKNLINQMLTINPAKRITAHEALKHPWVCQRSTVAS
 MMHRQETVECLKKFNARRKLKGAAILTTMLATRNFSAAKSLNKKADGVKPTNSTKNSAAATSPKGLTLP
 AALEPQTTVIHNPVDGIKESSDSANTTIEDEDAKARKQEIKTTEQLIEAVNNGDFEAYAKICDPGLTSF
 EPEALGNLVEGMDFHRFYFENLLAKNSKPIHTTILNPHVHVIGEDAACIAYIRLTQYIDGQGRPRTSQSE
 ETRVWHRRDGKWQNVHFHCSGAPVAPLQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk8064_g06.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_172079

ORF Size: 1554 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_172079.2](#), [NP_742076.1](#)

RefSeq Size: 1994 bp

RefSeq ORF: 1557 bp

Locus ID: 816

UniProt ID: [Q13554](#)

Cytogenetics: 7p13

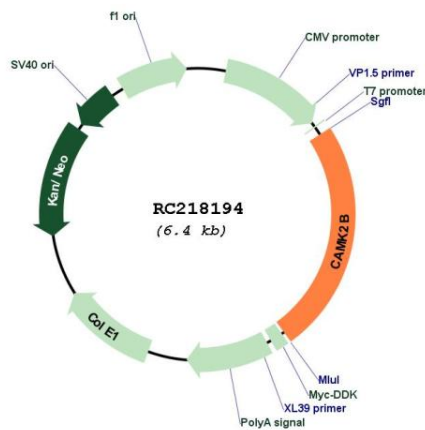
Protein Families: Druggable Genome, Protein Kinase

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

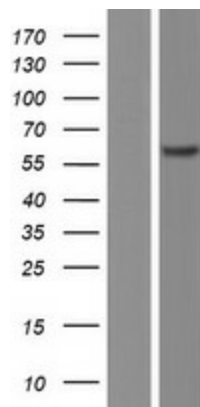
MW: 57.8 kDa

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 RC218194



Western blot validation of overexpression lysate (Cat# [LY406823]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218194 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).