

Product datasheet for **RC215639**

CAMK2B (NM_001220) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMK2B (NM_001220) 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:

>RC215639 representing NM_001220
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCACCACGGTGACCTGCACCCGCTTCACCGACGAGTACCAGCTCTACGAGGATATTGGCAAGGGG
 CTTTCTCTGTGGTCCGACGCTGTGTCAAGCTCTGCACCGCCATGAGTATGCAGCCAAGATCATCAACAC
 CAAGAAGCTGTCAGCCAGAGATCACCAGAAGCTGGAGAGAGAGGCTCGGATCTGCCGCCCTCTGAAGCAT
 TCCAACATCGTGCCTCCACGACAGCATCTCCGAGGAGGGCTTCCACTACCTGGTCTTCGATCTGGTCA
 CTGGTGGGAGCTCTTTGAAGACATTGTGGCGAGAGAGTACTACAGCGAGGCTGATGCCAGTCACTGTAT
 CCAGCAGATCCTGGAGGCCGTTCTCCATTGTACCAAATGGGGTCTCCACAGAGACCTCAAGCCGGAG
 AACCTGCTTCTGGCCAGCAAGTCAAAGGGGCTGCAGTGAAGCTGGCAGACTTCGGCCTAGCTATCGAGG
 TGCAGGGGACCAGCAGGCATGGTTTGGTTTCGCTGGCACACCAGGCTACCTGTCCCCTGAGGTCCTTCG
 CAAAGAGCGGTACGGCAAGCCCCTGGACATCTGGGCATGTGGGGTATCTGTACATCTGCTCGTGGGC
 TACCCACCTTCTGGGACGAGGACCAGCACAAAGCTGTACCAGCAGATCAAGGCTGGTGCCTATGACTTCC
 CGTCCCCTGAGTGGGACACCGTCACTCCTGAAGCCAAAAACCTCATCAACCAGATGCTGACCATCAACCC
 TGCCAAGCGCATCACAGCCATGAGGCCCTGAAGCACCCGTGGGTCTGCCAACGCTCCACGGTAGCATCC
 ATGATGCACAGACAGGAGACTGTGGAGTGTCTGAAAAAGTTCAATGCCAGGAGAAAGCTCAAGGGAGCCA
 TCCTCACCACCATGTGGCCACACGGAATTTCTCAGTGGGCGAGACAGACCACCGCTCCGGCCACAATGTC
 CACCGCGGCTCCGGCACCACCATGGGGCTGGTGAACAAGCCAAGAGTTTACTCAACAAGAAAGCAGAT
 GGAGTCAAGCCCCAGACGAATAGCACAAAAACAGTGCAGCCGCCACCAGCCCCAAAGGGGACGCTTCCTC
 CTGCCGCCCTGGAGCCTCAAACCACCTCATCCATAACCCAGTGGACGGGATTAAGGAGTCTTCTGACAG
 TGCCAATACCACCATAGAGGATGAAGACGCTAAAGCCCGAAGCAGGAGATCATTAAAGACCAGGAGCAG
 CTCATCGAGGCCGTCACAACGGTGACTTTGAGGCCTACGCGAAAATCTGTGACCCAGGGCTGACCTCGT
 TTGAGCCTGAAGCACTGGGCAACCTGGTTGAAGGGATGGACTTCCACAGATTCTACTTCGAGAACCTGCT
 GGCCAAGAACAGCAAGCCGATCCACACGACCATCCTGAACCCACAGTGCACGTCATTGGAGAGGATGCC
 GCCTGCATCGTTACATCCGGCTCACGCAGTACATTGACGGGCAGGGCCGGCCCCGACCAGCCAGTCTG
 AGGAGACCCGCGTGTGGCACCGCCGCGACGGCAAGTGGCAGAACGTGCACCTCCACTGCTCGGGCGGCC
 TGTGGCCCCGCTGCAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC215639 representing NM_001220
 Red=Cloning site Green=Tags(s)

MATTVTCTRFTDEYQLYEDIGKAFSVVRRVCVKLCTGHEYAAKIINTKKLSARDHQKLEREARICRLKH
 SNIVRLHDSISEEGFHLYVFDLVTGGELFEDIVAREYYSEADASHCIQQILEAVLHCHQMGVVHRDLKPE
 NLLLLASKCKGAAYKLADFLAIEVQGDQQAQWFGFAGTPGYLSPEVLRKEAYGKPVDIWACGVILYILLVG
 YPPFWDEDQHKLYQQIKAGAYDFPSPEWDTVTPEAKNLINQMLTINPAKRITAEALKHPWVCQRSTVAS
 MMHRQETVECLKKFNARRKLGAILTTLATRNF SVGRQTTAPATMSTAASGTTMGLVEQAKSLLNKKAD
 GVKPQTNSTKNSAAATSPKGTLPAALEPQTTVIHNPVDGIKESSDSANTTIEDEKARKQEI IKTTEQ
 LIEAVNNGDFEAYAKICDPGLTSFEPEALGNLVEGMDFHRYFENLLAKNSKPIHTTILNPHVHVIGEDA
 ACIAYIRLTQYIDGQRPRTSQSEETRVWHRRDGKWQNVHFHCSGAPVAPLQ

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:


ACCN: NM_001220

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_001220.1](#), [NP_001211.1](#)

RefSeq Size: 1825 bp

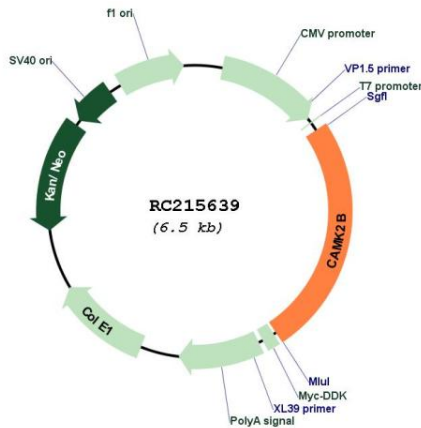
RefSeq ORF: 2001 bp

Locus ID: 816

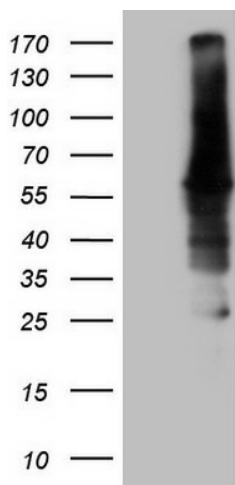
UniProt ID: [Q13554](#)

Cytogenetics:	7p13
Domains:	kinase, 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
MW:	60.4 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]

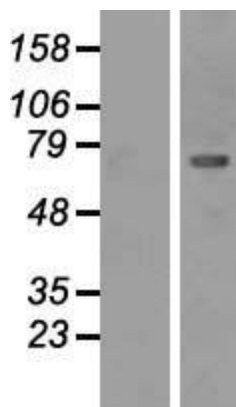
Product images:



Circular map for RC215639



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CAMK2B (Cat# RC215639, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-CAMK2B (1:2000) (Cat# [TA808345]). Positive lysates [LY420062] (100ug) and [LC420062] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY420062]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215639 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).