

Product datasheet for **RG205669**

CAMK2B (NM_172081) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMK2B (NM_172081) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CAMK2B
Synonyms:	CAM2; CAMK2; CAMKB; CaMKIIbeta; MRD54
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG205669 representing NM_172081
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCCACCACGGTGACCTGCACCCGCTTCACCGACGAGTACCAGCTCTACGAGGATATTGGCAAGGGG
 CTTTCTCTGTGGTCCGACGCTGTGTCAAGCTCTGCACCGCCATGAGTATGCAGCCAAGATCATCAACAC
 CAAGAAGCTGTCAGCCAGAGATCACCAGAAGCTGGAGAGAGAGGCTCGGATCTGCCGCCCTCTGAAGCAT
 TCCAACATCGTGCCTCCACGACAGCATCTCCGAGGAGGGCTTCCACTACCTGGTCTTCGATCTGGTCA
 CTGGTGGGAGCTCTTTGAAGACATTGTGGCGAGAGAGTACTACAGCGAGGCTGATGCCAGTCACTGTAT
 CCAGCAGATCCTGGAGGCCGTTCTCCATTGTACCAAATGGGGTCTCCACAGAGACCTCAAGCCGGAG
 AACCTGCTCTGGCCAGCAAGTCAAAGGGGCTGCAGTGAAGCTGGCAGACTTCGGCCTAGCTATCGAGG
 TGCAGGGGACCAGCAGGCATGGTTTGGTTTCGCTGGCACACCAGGCTACCTGTCCCTGAGGTCTTCCG
 CAAAGAGGCGTATGGCAAGCCTGTGGACATCTGGGCATGTGGGTGATCCTGTACATCCTGCTCGTGGC
 TACCCACCTTCTGGGACGAGGACCAGCACAAGCTGTACCAGCAGATCAAGGCTGGTGCCTATGACTTCC
 CGTCCCTGAGTGGGACACCGTCACTCCTGAAGCCAAAAACCTCATCAACCAGATGCTGACCATCAACCC
 TGCCAAGCGCATCACAGCCATGAGGCCCTGAAGCACCCGTGGTCTGCCAACGCTCCACGGTAGCATCC
 ATGATGCACAGACAGGAGACTGTGGAGTGTCTGAAAAAGTTCAATGCCAGGAGAAAGCTCAAGGGAGCCA
 TCCTCACCACCATGCTGGCCACACGGAATTTCTCAGCAGCCAAGAGTTTACTCAACAAGAAAGCAGATGG
 AGTCAAGCCCAGACGAATAGCACAAAAACAGTGCAGCCGCCACCAGCCCCAAAGGGACGCTTCTCTCT
 GCCGCCCTGGAGTCTTCTGACAGTGCCAATACCACCATAGAGGATGAAGACGCTAAAGCCCGGAAGCAGG
 AGATCATTAAAGACCACGGAGCAGCTCATCGAGCCGCTCAACAACGGTGACTTTGAGGCCTACGCGAAAA
 CTGTGACCCAGGCTGACCTCGTTTGGCCTGAAGCACTGGGCAACCTGGTTGAAGGGATGGACTTCCAC
 AGATTCTACTTCGAGAACCTGCTGGCCAAGAACAGCAAGCCGATCCACACGACCATCCTGAACCCACAG
 TGCACGTCATTGGAGAGGATGCCGCTGCATCGCTTACATCCGGCTCACGCAGTACATTGACGGGACGGG
 CCGGCCCGCACCAGCCAGTCTGAGGAGACCCGCTGTGGCACCCGCCGACGGCAAGTGGCAGAACGTG
 CACTTCCACTGCTCGGGCGCGCTGTGGCCCCGCTGCAG

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG205669 representing NM_172081
 Red=Cloning site Green=Tags(s)

MATTVTCTRFDEYQLYEDIGKGAFSVVRRCVKLCTGHEYAALKIINTKKLSARDHQKLEREARICRLLKH
 SNIVRLHDSISEEGFHYLVFDLVTGGELFEDIVAREYYSEADASHCIQQILEAVLHCHQMGMVVRDLKPE
 NLLLASKCKGAAVKLADFLAIEVQGDQQAQWFGFAGTPGYLSPEVLRKEAYGKPVDIWACGVILYILLVG
 YPPFWDEDQHKLYQIKAGAYDFPSPEWDTVTPEAKNLINQMLTINPAKRITAHEALKHPWVCQRSTVAS
 MMHRQETVECLKKFNARRKLGAILTTMLATRNFSAAKSLLNKKADGVKPKQTNSTKNSAAATSPKGTLP
 AALESSDSANTTIEDEDAKARKQEIITTEQLIEAVNNGDFEAYAKICDPGLTSFEPEALGNLVEGMDFH
 RFYFENLLAKNSKPIHTTILNPHVHIGEDAACIAYIRLTQYIDGQRPRTSQSEETRVVHRRDQKQWQNV
 HFHCSGAPVAPLQ

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

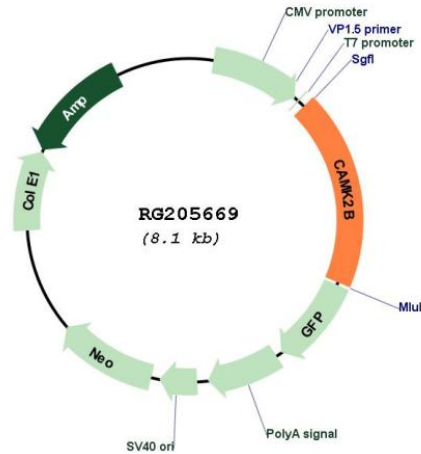
Cloning sites used for ORF Shutting:



EcoRI BamHI KpnI RBS Kozac Consensus SgfI AscI
 CTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGSAGATCTGCCGCCGATCGCCGGCGCCAGATCT

 HindIII NheI RsrII MluI NotI XhoI GFP Tag
 CAAGCTTAACTAGCTAGCGGACCG ACG CGT ACG CGG CCG CTC GAG ATG GAG AGC GAC --- ---
 T R T R P L E M E S D - - -

 PmeI FseI
 --- GAA GAA AGA GTT TAA ACGGCCGGCCGGGAGCT
 - - E E R V Stop

Plasmid Map:


ACCN: NM_172081

ORF Size: 1509 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:	<ol style="list-style-type: none">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_172081.3
RefSeq Size:	1949 bp
RefSeq ORF:	1512 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
Gene Summary:	<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>