

## Product datasheet for **RC234502**

### **CAMKK2 (NM\_001270485) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	CAMKK2 (NM_001270485) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CAMKK2
Synonyms:	CAMKK; CAMKKB
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC234502 representing NM\_001270485  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCATCATGTGTCTCTAGCCAGCCAGCAGCAACCGGGCCGCCCCAGGATGAGCTGGGGGCGAGGG  
 GCAGCAGCAGCAGCGAAAGCCAGAAGCCCTGTGAGGCCCTGCGGGCCTCTCATCCTTGAGCATCCACCT  
 GGGCATGGAGTCTTCATTGTGGTCACCGAGTGTGAGCCGGGCTGTGCTGTGGACCTCGGCTTGGCGCGG  
 GACCGGCCCTGGAGGCCGATGGCCAAGAGGTCCCCCTTGACACCTCCGGGTCCAGGCCCGGCCACC  
 TCTCCGGTCGCAAGCTGTCTCTGCAAGAGCGGTCCAGGGTGGGCTGGCAGCCGGTGGCAGCCTGGACAT  
 GAACGGACGCTGCATCTGCCCGTCCCTGCCCTACTCACCCGTGAGTCCCGCAGTCTCGCCTCGGCTG  
 CCCCAGCGGCCGACAGTGGAGTCTACCACGTCCATCACGGGTATGCAGGACTGTGTGCAGCTGAATC  
 AGTATACCCTGAAGGATGAAATGGAAAGGGCTCCTATGGTGTGCTCAAGTTGGCCTACAATGAAAATGA  
 CAATACCTACTATGCAATGAAGGTGCTGTCCAAAAGAAGCTGATCCGGCAGGCCGGCTTCCACGTCGC  
 CCTCCACCCCGAGGCACCCGGCCAGCTCCTGGAGGCTGCATCCAGCCAGGGGCCCCATTGAGCAGGTGT  
 ACCAGGAAATTGCCATCCTCAAGAAGCTGGACCACCCCAATGTGGTGAAGCTGGTGGAGGTCCTGGATGA  
 CCCCAATGAGGACCATCTGTACATGGTGTTCGAACTGGTCAACCAAGGGCCCGTATGGAAGTGGCCACC  
 CTCAAACCACTCTCTGAAGACCAGGCCGTTTCTACTTCCAGGATCTGATCAAAGGCATCGAGTACTTAC  
 ACTACCAGAAGATCATCCACCGTACATCAAACCTTCAAACCTCCTGGTCGGAGAAGATGGGCACATCAA  
 GATCGTGACTTTGGTGTGAGCAATGAATCAAGGGCAGTGACCGCTCCTCTCCAACACCGTGGGCAGC  
 CCCGCCTCATGGCACCCGAGTCGCTCTCTGAGACCCGCAAGATCTTCTCTGGGAAGGCCTTGGATGTTT  
 GGGCCATGGGTGTGACACTATACTGCTTTGTCTTTGGCCAGTGCCATTATGACGAGCGGACTGATGTG  
 TTTACACAGTAAGATCAAGAGTCAGGCCCTGGAATTTCCAGACCAGCCCGACATAGCTGAGGACTTGAAG  
 GACCTGATCACCCGTATGCTGGACAAGAACCCGAGTCGAGGATCGTGGTCCCGGAAATCAAGCTGCACC  
 CCTGGGTACGAGGCATGGGGCGGAGCCGTTGCCGTGGAGGATGAGAAGTGCACGCTGGTGAAGTGCAC  
 TGAAGAGGAGGTGAGAAGTCAAGTCAAACACATTTCCAGCTTGGCAACCGTATCCTGGTGAAGACCATG  
 ATACGTAACGCTCCTTTGGGAACCCATTGAGGGCAGCCGGCGGGAGGAACGCTCACTGTCAGCGCCTG  
 GAAACTTGCTCACAAAAAACAACCAGGAATGTGAGTCCCTGTCTGAGCTCAAGGAAGCAAGGCAGCG  
 AAGACAACCTCCAGGGCACCCGCCGCCCGGCTGGGGGAGGAGGAGTGTCTTGTGAGAGGCAGTCCC  
 TCGGTGGAAGTGTCTGGGCCCCCGCCCGGCTCCCCCGCACGCATGCATCCACTGCGGCCGGAGGAGG  
 CCATGGAGCCCGAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC234502 representing NM\_001270485  
 Red=Cloning site Green=Tags(s)

MSSCVSSQPSSNRAAPQDELGGRGSSSESQKPCALRGLSSLIHLGMESFIVVTECEPGCAVDLGLAR  
 DRPLEADGQEVPLDTSGSQARPHLSGRKLSLQERSQGLAAGGSLDMNGRCICPSLPYSPVSSPQSSPRL  
 PRRPTVESHVSI TGMQDCVQLNQYTLKDEIGKGSYGVVKLAYNENDNTYYAMKVL SKKKLIRQAGFPRR  
 PPPRGTRPAPGGCIQPRGPIEQVYQEIAILKKLDHPNVVKLVEVLDDPNEDHLYMVFELVNQGPVMEVPT  
 LKPLSEDQARFYFDL IKGIEYLHYQKIIHRDIKPSNLLVGEDGHIKIADFGVSNFVKGS DALLSNTVGT  
 PAFMAPESLSETRKIFSGKALDVWAMGVTLYCFVFGQCPFMDERIMCLHSHKIKSQALEFPDQPDIAEDLK  
 DLITRMLDKNPESRIVVPEIKLHPWVTRHGAELPSEENCTLVEVTEEEVENSVKHIPS LATVILVKTM  
 IRKRSFNGPFEGSRREERSLSAPGNLLTKKPTRECESLSELKEARQRRQPPGHRPAPRGGGGSALVRGSP  
 CVESCWAPAPGSPARMHPLRPEEAMEPE

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_001270485

**ORF Size:** 1764 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\\_001270485.2](#)

**RefSeq Size:** 4966 bp

**RefSeq ORF:** 1767 bp

**Locus ID:** 10645

**UniProt ID:** [Q96RR4](#)

**Cytogenetics:** 12q24.31

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

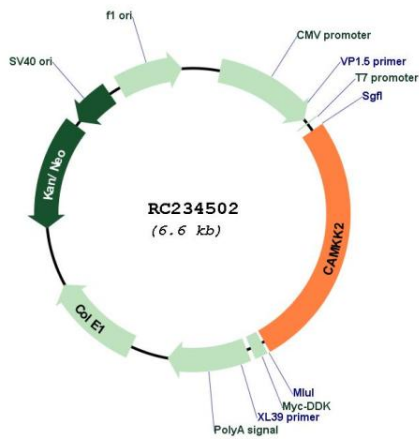
**Protein Pathways:** Adipocytokine signaling pathway

**MW:** 65.2 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. The major isoform of this gene plays a role in the calcium/calmodulin-dependent (CaM) kinase cascade by phosphorylating the downstream kinases CaMK1 and CaMK4. Protein products of this gene also phosphorylate AMP-activated protein kinase (AMPK). This gene has its strongest expression in the brain and influences signalling cascades involved with learning and memory, neuronal differentiation and migration, neurite outgrowth, and synapse formation. Alternative splicing results in multiple transcript variants encoding distinct isoforms. The identified isoforms differ in their ability to undergo autophosphorylation and to phosphorylate downstream kinases. [provided by RefSeq, Jul 2012]

**Product images:**



Circular map for RC234502