

## Product datasheet for **RC219748**

### **CAMKK2 (NM\_172215) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	CAMKK2 (NM_172215) 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:**

>RC219748 representing NM\_172215  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGTCATCATGTGTCTCTAGCCAGCCAGCAGCAACCGGGCCGCCCCAGGATGAGCTGGGGGCGAGGG  
 GCAGCAGCAGCAGCGAAAGCCAGAAGCCCTGTGAGGCCCTGCGGGGCCTCTCATCCTTGAGCATCCACCT  
 GGGCATGGAGTCTTCATTGTGGTCACCGAGTGTGAGCCGGGCTGTGCTGTGGACCTCGGCTTGGCGCGG  
 GACCGGCCCTGGAGGCCGATGGCCAAGAGGTCCCTTACACCTCCGGGTCCAGGCCCGGCCACCCACC  
 TCTCCGGTCGCAAGCTGTCTCTGCAAGAGCGGTCCAGGGTGGGCTGGCAGCCGGTGGCAGCCTGGACAT  
 GAACGGACGCTGCATCTGCCGTCCTGCCCTACTCACCCGTGAGTCCCGCAGTCTCGCCTCGGCTG  
 CCGCGGCCGCGACAGTGGAGTCTCACACGTCCATCACGGGTATGCAGGACTGTGTGCAGCTGAATC  
 AGTATACCCTGAAGGATGAAATTGGAAAGGGCTCCTATGGTGTGTCGTAAGTTGGCCTACAATGAAAATGA  
 CAATACCTACTATGCAATGAAGGTGCTGTCCAAAAGAAGCTGATCCGGCAGGCCGGCTTCCACGTCGC  
 CCTCCACCCCGAGGCACCCGGCCAGCTCCTGGAGGCTGCATCCAGCCAGGGGCCCCATTGAGCAGGTGT  
 ACCAGGAAATTGCCATCCTCAAGAAGCTGGACCACCCCAATGTGGTGAAGCTGGTGGAGGTCCTGGATGA  
 CCCCAATGAGGACCATCTGTACATGGTGTTCGAACTGGTCAACCAAGGGCCCGTATGGAAGTGGCCACC  
 CTCAAACCACTCTCTGAAGACCAGGCCGTTTCTACTTCCAGGATCTGATCAAAGGCATCGAGTACTTAC  
 ACTACCAGAAGATCATCCACCGTGACATCAAACCTTCAAACCTCCTGGTCGGAGAAGATGGGCACATCAA  
 GATCGTGACTTTGGTGTGAGCAATGAATCAAGGGCAGTGACGCGCTCCTCTCCAACACCGTGGGCACG  
 CCCGCCTTCATGGCACCCGAGTCGCTCTCTGAGACCCGCAAGATCTTCTCTGGGAAGGCCTTGGATGTTT  
 GGGCCATGGGTGTGACACTATACTGCTTTGTCTTTGGCCAGTGCCCATTCATGGACGAGCGGATGTG  
 TTTACACAGTAAGATCAAGAGTCAGGCCCTGGAATTTCCAGACCAGCCGACATAGCTGAGGACTTGAAG  
 GACCTGATCACCCGATGCTGGACAAGAACCCGAGTCGAGGATCGTGGTCCCGGAAATCAAGATCCTGG  
 TGAAGACCATGATACGTAACGCTCCTTTGGGAACCCATTGAGGGCAGCCGGCGGGAGGAACGCTCACT  
 GTCAGCGCTGGAAACTTGCTCACAAAAAACCAACCAGGGAATGTGAGTCCCTGTCTGAGCTCAAGACC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC219748 representing NM\_172215  
 Red=Cloning site Green=Tags(s)

MSSCVSSQPSSNRAAPQDELGGRGSSSESQKPCEALRGLSSLIHLGMESFIVVTECEPGCAVDLGLAR  
 DRPLEADGQEVPLDTSQSARPHLSGRKLSLQERSQGLAAGGSLDMNGRCICPSLPYSPVSSPQSSPRL  
 PRRPTVESHHSITGMQDCVQLNQYTLKDEIGKGSYGVVKLAYNENDNTYYAMKVLKSKKLIRQAGFRR  
 PPPRGTRPAPGGCIQPRGPIEQVYQEIAILKLDHPNVVKLVEVLDDPNEDHLYMVFELVNQGPVMEVPT  
 LKPLSEDAQRFYFDLIKIEYLHYQKIIHRDIKPSNLLVGEDGHKIADFGVSNEFKGSDALLSNTVGT  
 PAFMAPESLSETRKIFSGKALDVWAMGVTLYCFVFGQCPFMDERIMCLHSHKIKSQALEFPDQPDIAEDLK  
 DLITRMLDKNPESRIIVPEIKILVKTMIKRSFGNPFEGSRREERSLSAPGNLLTKKPTRECESLSELKT

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk8063\\_a09.zip](https://cdn.origene.com/chromatograms/mk8063_a09.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_172215

**ORF Size:** 1470 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\\_172215.3](#)

**RefSeq Size:** 2852 bp

**RefSeq ORF:** 1473 bp

**Locus ID:** 10645

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

**Cytogenetics:** 12q24.31

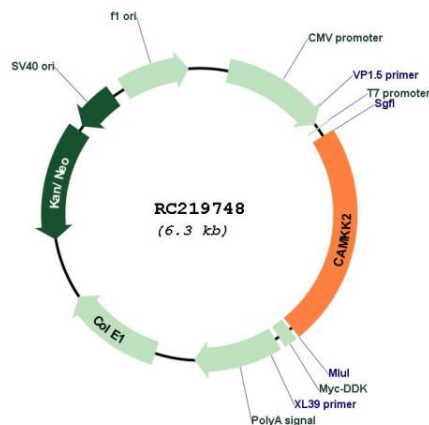
**Protein Families:** Druggable Genome, Protein Kinase, Transcription Factors

**Protein Pathways:** Adipocytokine signaling pathway

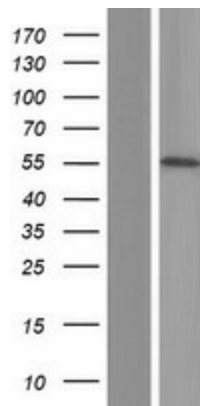
**MW:** 53.9 kDa

**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 RC219748



Western blot validation of overexpression lysate (Cat# [LY406745]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC219748 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).