

Product datasheet for **RC215581**

CAMKK2 (NM_172214) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMKK2 (NM_172214) 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)



[View online »](#)

ORF Nucleotide Sequence:

>RC215581 representing NM_172214
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCATCATGTGTCTCTAGCCAGCCAGCAGCAACCGGGCCGCCCCAGGATGAGCTGGGGGCGAGGG
 GCAGCAGCAGCAGCGAAAGCCAGAAGCCCTGTGAGGCCCTGCGGGGCCTCTCATCCTTGAGCATCCACCT
 GGGCATGGAGTCTTCATTGTGGTCACCGAGTGTGAGCCGGGCTGTGCTGTGGACCTCGGCTTGGCGCGG
 GACCGGCCCTGGAGGCCGATGGCCAAGAGGTCCCCCTTGACACCTCCGGGTCCAGGCCCGGCCACC
 TCTCCGGTCGCAAGCTGTCTCTGCAAGAGCGGTCCAGGGTGGGCTGGCAGCCGGTGGCAGCCTGGACAT
 GAACGGACGCTGCATCTGCCCGTCCCTGCCCTACTCACCCGTGAGTCCCGCAGTCTCGCCTCGGCTG
 CCCCAGCGGCCGACAGTGGAGTCTCACACGTCCATCACGGGTATGCAGGACTGTGTGCAGCTGAATC
 AGTATACCCTGAAGGATGAAATGGAAAGGGCTCCTATGGTGTGCTCAAGTTGGCCTACAATGAAATGA
 CAATACCTACTATGCAATGAAGGTGCTGTCCAAAAGAAGCTGATCCGGCAGGCCGGCTTCCACGTCGC
 CCTCCACCCGAGGCACCCGGCCAGTCCCTGGAGGCTGCATCCAGCCAGGGGCCCCATTGAGCAGGTGT
 ACCAGGAAATTGCCATCCTCAAGAAGCTGGACCACCCCAATGTGGTGAAGCTGGTGGAGGTCCTGGATGA
 CCCCAATGAGGACCATCTGTACATGGTGTTCGAACTGGTCAACCAAGGGCCCGTATGGAAGTGGCCACC
 CTCAAACCACTCTCTGAAGACCAGGCCGTTTCTACTTCCAGGATCTGATCAAAGGCATCGAGTACTTAC
 ACTACCAGAAGATCATCCACCGTACATCAAACCTTCAAACCTCCTGGTCGGAGAAGATGGGCACATCAA
 GATCGTGACTTTGGTGTGAGCAATGAATCAAGGGCAGTGACGCGCTCCTCTCCAACACCGTGGGCACG
 CCCGCCTCATGGCACCCGAGTCTCTCTGAGACCCGCAAGATCTTCTGGAAGGCCCTGGATGTTT
 GGGCCATGGGTGTGACACTATACTGCTTTGTCTTTGGCCAGTGCCATTATGGACGAGCGGATGATGTG
 TTTACACAGTAAGATCAAGAGTCAAGGCTGGAATTTCCAGACCAGCCGACATAGCTGAGGACTTGAAG
 GACCTGATCACCCGATGCTGGACAAGAACCCGAGTCAAGGATCGTGGTCCCGAAATCAAGCTGCACC
 CCTGGGTCAAGGATGGGGCGGAGCCGTTGCCGTGGAGGATGAGAAGTGCACGCTGGTCAAGTGCAC
 TGAAGAGGAGGTGAGAAGTCAAGACATTTCCAGCTTGGCAACCGTATCCTGGTGAAGACCATG
 ATACGTAACGCTCCTTTGGGAACCCATTCAGGGCAGCCGGCGGGAGGAACGCTCACTGTCAGCGCCTG
 GAAACTTGCTCACCAAAAACCAACCAGGGAATGTGAGTCCCTGTCTGAGCTCAAGACC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC215581 representing NM_172214
 Red=Cloning site Green=Tags(s)

MSSCVSSQPSSNRAAPQDELGGRGSSSESQKPCALRGLSSL SIHLGMESFIVVTECEPGCAVDLGLAR
 DRPLEADGQEVPLDTSQSARPHLSGRKLSLQERSQGLAAGGSLDMNGRCICPSLPYSPVSSPQSSPRL
 PRRPTVESHVSIITGMQDCVQLNQYTLKDEIGKGSYGVVKLAYNENDNTYYAMKVL SKKKLIRQAGFPRR
 PPPRGTRPAPGGCIQPRGPIEQVYQEIAILKKLDHPNVVKLVEVLDDPNEDHLYMVFELVNQGPVMEVPT
 LKPLSEDQARFYFDL IKGIEYLHYQKIIHRDIKPSNLL VGEDGHIKIADFGVSNFKGSDALLSNTVGT
 PAFMAPESLSETRKIFSGKALDVWAMGVTLYCFVFGQCPFMDERIMCLHSHKIKSQALEFPDQPDIAEDLK
 DLITRMLDKNPESRIVVPEIKLHPWVTRHGAELPSEDENCTLVEVTEEEVENSVKHIPS LATVILVKTM
 IRKRSFGNPFEGSRREERSLSAPGNLLTKKPTRECESLSELKT

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk8065_h08.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_172214

ORF Size: 1599 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_172214.3](#)

RefSeq Size: 2981 bp

RefSeq ORF: 1602 bp

Locus ID: 10645

UniProt ID: [Q96RR4](#)

Cytogenetics: 12q24.31

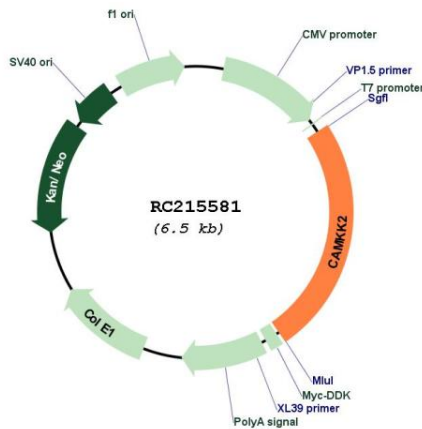
Protein Families: Druggable Genome, Protein Kinase, Transcription Factors

Protein Pathways: Adipocytokine signaling pathway

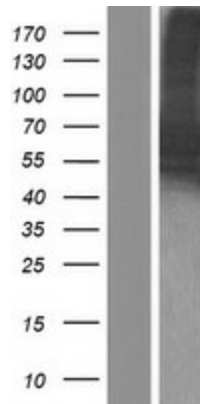
MW: 58.7 kDa

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 RC215581



Western blot validation of overexpression lysate (Cat# [LY406744]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215581 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).