

## Product datasheet for **RG213882**

### **CAMKK2 (NM\_153500) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	CAMKK2 (NM_153500) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CAMKK2
Synonyms:	CAMKK; CAMKKB
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG213882 representing NM\_153500  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCATCATGTGTCTCTAGCCAGCCAGCAGCAACCGGGCCGCCCCAGGATGAGCTGGGGGCGAGGG  
 GCAGCAGCAGCAGCGAAAGCCAGAAGCCCTGTGAGGCCCTGCGGGGCCTCTCATCCTTGAGCATCCACCT  
 GGGCATGGAGTCCTTCATTGTGGTCACCGAGTGTGAGCCGGGCTGTGCTGTGGACCTCGGCTTGGCGCGG  
 GACCGGCCCTGGAGGCCGATGGCCAAGAGGTCCCTTACACCTCCGGGTCCAGGCCCGGCCACC  
 TCTCCGGTCGCAAGCTGTCTCTGCAAGAGCGGTCCAGGGTGGGCTGGCAGCCGGTGGCAGCCTGGACAT  
 GAACGGACGCTGCATCTGCCGTCCTGCCCTACTCACCCGTGAGTCCCGCAGTCTCGCCTCGGCTG  
 CCGCGGCCGACAGTGGAGTCTACCACGTCCATCACGGGTATGCAGGACTGTGTGCAGCTGAATC  
 AGTATACCCTGAAGGATGAAATTGGAAAGGGCTCCTATGGTGTGCTCAAGTTGGCCTACAATGAAAATGA  
 CAATACCTACTATGCAATGAAGGTGCTGTCCAAAAGAAGCTGATCCGGCAGGCCGGCTTCCACGTCGC  
 CCTCCACCCGAGGCACCCGGCCAGCTCCTGGAGGCTGCATCCAGCCAGGGGCCCATTTAGCAGGTGT  
 ACCAGGAAATTGCCATCCTCAAGAAGCTGGACCACCCCAATGTGGTGAAGCTGGTGGAGGTCCTGGATGA  
 CCCCAATGAGGACCATCTGTACATGGTGTTCGAACTGGTCAACCAAGGGCCCGTGTGGAAGTGGCCACC  
 CTCAAACCACTCTCTGAAGACCAGGCCGTTTCTACTTCCAGGATCTGATCAAAGGCATCGAGTACTTAC  
 ACTACCAGAAGATCATCCACCGTACATCAAACCTTCAAACCTCCTGGTCGGAGAAGATGGGCACATCAA  
 GATCGTGACTTTGGTGTGAGCAATGAATCAAGGGCAGTGACGCGCTCCTCTCCAACACCGTGGGCAGC  
 CCCGCCTTCATGGCACCCGAGTCGCTCTCTGAGACCCGCAAGATCTTCTCTGGGAAGGCCTTGGATGTTT  
 GGGCCATGGGTGACACTATACTGCTTTGTCTTTGGCCAGTGCCCATTCATGGACGAGCGGACTTGAAG  
 TTTACACAGTAAGATCAAGAGTCAGGCCCTGGAATTTCCAGACCAGCCGACATAGCTGAGGACTTGAAG  
 GACCTGATCACCCGATGCTGGACAAGAACCCGAGTCGAGGATCGTGGTCCCGGAAATCAAGATCCTGG  
 TGAAGACCATGATACGTAACGCTCCTTTGGGAACCCATTGAGGGCAGCCGGCGGGAGGAACGCTCACT  
 GTCAGCGCCTGGAAACTTGCTCACGAAGCAAGGCAGCAAGACAACCTCCAGGGCACCGCCGCCCC  
 GTGGGGGAGGAGGAAGTCTT

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>RG213882 representing NM\_153500  
 Red=Cloning site Green=Tags(s)

MSSCVSSQPSSNRAAPQDELGGRGSSSESQKPCEALRGLSSLIHLMESFIVVTECEPGCAVDLGLAR  
 DRPLEADGQEVPLDTSQSARPHLSGRKLSLQERSQGLAAGGSLDMNGRCICPSLPYSPVSSPQSSPRL  
 PRRPTVESHHSITGMQDCVQLNQYTLKDEIGKSYGVVKLAYNENDNTYYAMKVLKSKKLIHQAGFPRR  
 PPPRGTRPAPGGCIQPRGPIEQVYQEIAILKLDHPNVVKLVEVLDDPNEDHLYMVFELVNQGPVMEVPT  
 LKPLSEDAQRFYFQDLIKGIEYLHYQKIIHRDIKPSNLLVGEDGHKIADFGVSNEFKGSDALLSNTVGT  
 PAFMAPESLSETRKIFSGKALDVWAMGVTLYCFVFGQCPFMDERIMCLHSHKIKSQALEFPDQPDIAEDLK  
 DLITRMLDKNPESRIIVPEIKILVKTMIKRSFGNPFEGSRREERSLSAPGNLLTKQGSEDNLQGTDP  
 VGEDEVLL

**TRTRPLE** – GFP Tag – V

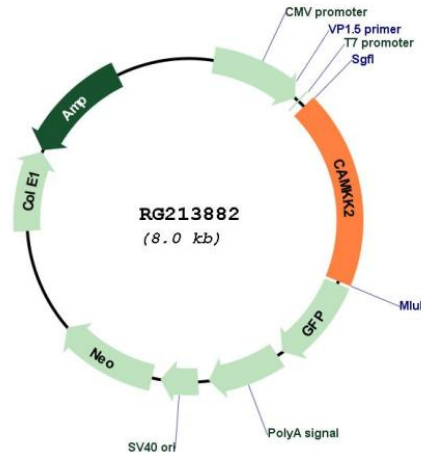
**Restriction Sites:**

Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



**Plasmid Map:**


**ACCN:** NM\_153500

**ORF Size:** 1494 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\\_153500.1](#), [NP\\_705720.1](#)

**RefSeq Size:** 5448 bp

**RefSeq ORF:** 1497 bp

**Locus ID:** 10645

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

**Cytogenetics:** 12q24.31

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

**Protein Pathways:** Adipocytokine signaling pathway

**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]