

Product datasheet for **RG219152**

CAMKK2 (NM_153499) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CAMKK2 (NM_153499) 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:

>RG219152 representing NM_153499
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCATCATGTGTCTCTAGCCAGCCAGCAGCAACCGGGCCGCCCCAGGATGAGCTGGGGGCGAGGG
 GCAGCAGCAGCAGCGAAAGCCAGAAGCCCTGTGAGGCCCTGCGGGGCCTCTCATCCTTGAGCATCCACCT
 GGGCATGGAGTCTTCATTGTGGTCACCGAGTGTGAGCCGGGCTGTGCTGTGGACCTCGGCTTGGCGCGG
 GACCGGCCCTGGAGGCCGATGGCCAAGAGGTCCCCCTTGACTCCTCCGGGTCCAGGCCCGGCCACC
 TCTCCGGTCGCAAGCTGTCTCTGCAAGAGCGGTCCAGGGTGGGCTGGCAGCCGGTGGCAGCCTGGACAT
 GAACGGACGCTGCATCTGCCCGTCCCTGCCCTACTCACCCGTGAGTCCCCGAGTCTCGCCTCGGCTG
 CCCCAGCGGCCGACAGTGGAGTCTCACCACGTCCATCACGGGTATGCAGGACTGTGTGCAGCTGAATC
 AGTATACCCTGAAGGATGAAATGGAAAGGGCTCCTATGGTGTGCTCAAGTTGGCCTACAATGAAAATGA
 CAATACCTACTATGCAATGAAGGTGCTGTCCAAAAGAAGCTGATCCGGCAGGCCGGCTTCCACGTCGC
 CCTCCACCCCGAGGCACCCGGCCAGCTCCTGGAGGCTGCATCCAGCCAGGGGCCCCATTGAGCAGGTGT
 ACCAGGAAATTGCCATCCTCAAGAAGCTGGACCACCCCAATGTGGTGAAGCTGGTGGAGGTCCTGGATGA
 CCCCAATGAGGACCATCTGTACATGGTGTTCGAACTGGTCAACCAAGGGCCCGTATGGAAGTGGCCACC
 CTCAAACCACTCTCTGAAGACCAGGCCGTTTCTACTTCCAGGATCTGATCAAAGGCATCGAGTACTTAC
 ACTACCAGAAGATCATCCACCGTACATCAAACCTTCAAACCTCCTGGTCGGAGAAGATGGGCACATCAA
 GATCGTGACTTTGGTGTGAGCAATGAATCAAGGGCAGTGACGCGCTCCTCTCCAACACCGTGGGCAGC
 CCCGCCTCATGGCACCCGAGTCGCTCTCTGAGACCCGCAAGATCTTCTGGAAGGCCCTGGATGTTT
 GGGCCATGGGTGTGACACTATACTGCTTTGTCTTTGGCCAGTGCCATTATGACGAGCGGATCATGTG
 TTTACACAGTAAGATCAAGAGTCAGGCCCTGGAATTTCCAGACCAGCCGACATAGCTGAGGACTTGAAG
 GACCTGATCACCCGATGCTGGACAAGAACCCGAGTCGAGGATCGTGGTCCCGAAATCAAGCTGCACC
 CCTGGGTACGAGGCATGGGGCGGAGCCGTTGCCGTGGAGGATGAGAAGTGCACGCTGGTGAAGTGCAC
 TGAAGAGGAGGTGAGAAGTCAAGACATTTCCAGCTTGGCAACCGTATCCTGGTGAAGACCATG
 ATACGTAACGCTCCTTTGGGAACCCATTCAGGGCAGCCGGCGGGAGGAACGCTCACTGTCAGCGCCTG
 GAAACTTGCTCACGAAGCAAGGCAGCGAAGACAACCTCCAGGGCACCGACCCGCCCCCGTGGGGGAGGA
 GGAAGTGTCTTG

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG219152 representing NM_153499
 Red=Cloning site Green=Tags(s)

MSSCVSSQPSSNRAAPQDELGGRGSSSESQKPCALRGLSSL SIHLGMESFIVVTECEPGCAVDLGLAR
 DRPLEADQEQEVLDSGSQARPHLSGRKLSLQERSQGLAAGGSLDMNGRCICPSLPYSPVSSPQSSPRL
 PRRPTVESHVSIITGMQDCVQLNQYTLKDEIGKGSYGVVVKLAYNENDNTYYAMKVL SKKKLIRQAGFPRR
 PPPRGTRPAPGGCIQPRGPIEQVYQEIAILKKLDHPNVVKLVEVLDDPNEDHLYMVFELVNQGPVMEVPT
 LKPLSEDQARFYFDL IKGIEYLHYQKIIHRDIKPSNLL VGEDGHIKIADFGVSNFKGSDALLSNTVGT
 PAFMAPESLSETRKIFSGKALDVWAMGVTLYCFVFGQCPFMDERIMCLHSKIKSQALEFPDQPDIAEDLK
 DLITRMLDKNPESRIVVPEIKLHPWVTRHGAEPLPSEDENCTLVEVTEEEVENSVKHIPS LATVILVKTM
 IRKRSEFGNPFEGSRREERSLSAPGNLLTKQSEDNLQGTDPVVEEVL

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

ACCN:	NM_153499
ORF Size:	1623 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_153499.1
RefSeq Size:	5577 bp
RefSeq ORF:	1626 bp
Locus ID:	10645
UniProt ID:	Q96RR4
Cytogenetics:	12q24.31
Domains:	pkinase, TyrKc, S_TKc
Protein Families:	Druggable Genome, Protein Kinase, Transcription Factors
Protein Pathways:	Adipocytokine signaling pathway
MW:	59.6 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]