

## Product datasheet for **MG207662**

### Camk2a (NM\_177407) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Camk2a (NM_177407) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Camk2a
Synonyms:	CaMKII; mKIAA0968; R74975
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG207662 representing NM\_177407  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCTACCATCACCTGCACCCGATTACAGAAGAGTACCAGCTCTTTGAGGAACTGGGAAAGGGAGCCT  
 TCTCTGGTGGCAGGTGTGAAGGTGCTGGCTGGTCAGGAGTATGCTGCCAAGATTATCAACACCAA  
 GAAGCTTTCAGCCAGAGATCACCAGAAGCTGGAGCGTGAGGCCCGCATCTGCCGCTTGTGAAGCACCCC  
 AATATCGTCCGACTCCATGACAGCATCTCCGAGGAGGGGCACCTACCTTATCTTCGATCTGGTACTG  
 GTGGGAACTGTTTGAAGACATTGTGGCCCGGAGTATTACAGTGAAGCTGATGCCAGCCACTGTATCCA  
 GCAGATCTGGAGGCTGTCTACACTGTCACCAGATGGGGTGGTGCATCGTGACCTGAAGCCTGAGAAT  
 CTGTTGCTGGCCTCGAAGCTCAAGGGCGCTGCTGTGAAGCTGGCAGACTTGGCCTGGCCATAGAGGTGG  
 AGGGGAGCAGCAGGCATGGTTTGGGTTTCGAGGGACACCTGGATACCTCTCCCAGAAGTCTGAGGAA  
 GGACCCGTACGGGAAGCCCGTGGACCTGTGGCCCTGTGGCGTCATCCTGTATATCTTGTGTTGGGTAT  
 CCCCCGTTCTGGGATGAAGACCAGCATCGCCTGTACCAGCAGATCAAAGCTGGTGCTATGATTTCCCAT  
 CACCAGAATGGGACACCGTCACCCAGAAAGCAAGGATCTGATCAATAAGATGCTGACCATCAACCCGTC  
 CAAACGCATCACGGCCGCTGAGGCTCTCAAGCACCCATGGATCTCGCACCGCTCCACCGTGGCCTCCTGC  
 ATGCACAGACAGGAGACCGTGGACTGCCTGAAGAAGTTCAATGCCAGGAGGAAACTGAAGGGAGCCATCC  
 TCACCACTATGCTGGCCACCAGGAATTCTCCGGAGGGAAGAGCGGAGGAAACAAGAAGAACGATGGTGT  
 GAAGGAATCTTCTGAGAGCACCACCCATTGAGGACGAAGACCCAAAGTGCGCAACAGGAAATT  
 ATCAAAGTGACAGAGCAGCTGATCGAAGCCATAAGCAATGGAGACTTTGAGTCTACACGAAGATGTGGC  
 ACCCTGGAATGACAGCCTTTGAACCAGAGCCCTGGGAACTGGTGGAGGGCCTGGACTTTCATCGATT  
 CTATTTTGA AAAACCTGTGGTCCCGAACAGCAAGCCCGTGCACACCACCATCCTGAACCCCTCACATCCAC  
 CTGATGGGTGACGAGTACGCTGCATCGCTATATCCGCATCACTCAGTACCTGGATGCAGGCGGCATAC  
 CCCGCACGGCCAGTCAGAGGAGACCCGCTGTGGCACCGCAGGGACGGCAAATGGCAGATCGTCCACTT  
 CCACAGATCTGGGGCGCCCTCCGCTCCTGCCGAT

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>MG207662 representing NM\_177407  
 Red=Cloning site Green=Tags(s)

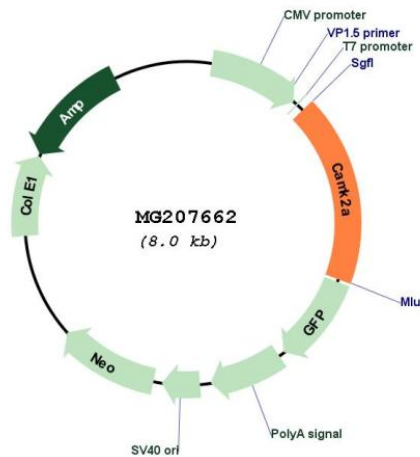
MATITCTRFTEEYQLFEELGKGAFSVVRRVCVKVLAGQEYAAKIINTKKSARDHQKLEREARICRLLKHP  
 NIVRLHDSISEEGHHYLIFDLVTGGELFEDIVAREYYSEADASHCIQQILEAVLHCHQMGGVHRDLKPEN  
 LLLASKLKGAAVKLADFLAIEVEGEQQAWFGFAGTPGYLSPEVLRKDPYGKPVDLWACGVILYILLVGY  
 PPFWDEDQHRLYQKIKAGAYDFPSPEWDTVTPEAKDLINKMLTINPSKRITAAEALKHPWISHRSTVASC  
 MHRQETVDCLKKFNARRKLGAILTTMLATRNFSGGKSGGNKNDGVKESSESTNTTIEDEDTKVRKQEI  
 IKVTEQLIEAISNGDFESYTKMCDPGMTAFEPEALGNLVEGLDFHRFYFENLWSRNSKPVHTTILNPHIH  
 LMGDESACIAYIRITQYLDAGGIPRTAQSEETRVWHRDQKQIVHFHRS GAPSVLPH

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

**Plasmid Map:**


**ACCN:** NM\_177407

**ORF Size:** 1434 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\\_177407.4](#)

**RefSeq Size:** 4949 bp

**RefSeq ORF:** 1437 bp

**Locus ID:** 12322

**UniProt ID:** [P11798](#)

**Cytogenetics:** 18 34.41 cM

**Gene Summary:** Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca(2+)/calmodulin-binding and autophosphorylation, and is involved in synaptic plasticity, neurotransmitter release and long-term potentiation. Member of the NMDAR signaling complex in excitatory synapses, it regulates NMDAR-dependent potentiation of the AMPAR and therefore excitatory synaptic transmission (By similarity). Regulates dendritic spine development. Also regulates the migration of developing neurons (By similarity). Phosphorylates the transcription factor FOXO3 to activate its transcriptional activity (PubMed:23805378).[UniProtKB/Swiss-Prot Function]