

## Product datasheet for **MR207662**

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

#### Product data:

|                           |   |
|---------------------------|---|
| Product Type:             | Expression Plasmids                       |
| Product Name:             | Camk2a (NM_177407) Mouse Tagged ORF Clone |
| Tag:                      | Myc-DDK                                   |
| Symbol:                   | Camk2a                                    |
| Synonyms:                 | CaMKII; mKIAA0968; R74975                 |
| Mammalian Cell Selection: | Neomycin                                  |
| Vector:                   | pCMV6-Entry (PS100001)                    |
| E. coli Selection:        | Kanamycin (25 ug/mL)                      |



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**ORF Nucleotide Sequence:**

>MR207662 representing NM\_177407  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGCTACCATCACCTGCACCCGATTACAGAAGAGTACCAGCTCTTTGAGGAACGGGAAAGGGAGCCT  
 TCTCTGGTGGCAGGTGTGAAGGTGCTGGCTGGTCAGGAGTATGCTGCCAAGATTATCAACACCAA  
 GAAGCTTTTCAGCCAGAGATCACCAAGCTGGAGCGTGAGGCCCGCATCTGCCGCTTGTGAAGCACCC  
 AATATCGTCCGACTCCATGACAGCATCTCCGAGGAGGGGCACCTACCTTATCTTCGATCTGGTACTG  
 GTGGGAACTGTTGAAGACATTGTGGCCGGGAGTATTACAGTGAAGCTGATGCCAGCCACTGTATCCA  
 GCAGATCTGGAGGCTGTCTACACTGTCACCAGATGGGGTGGTGCATCGTGACCTGAAGCCTGAGAAT  
 CTGTTGCTGGCCTCGAAGCTCAAGGGCGTGTGTGAAGCTGGCAGACTTTGGCCTGGCCATAGAGGTGG  
 AGGGGAGCAGCAGGCATGGTTGGGTTGCAGGGACACCTGGATACCTCTCCCAGAAGTCTGAGGAA  
 GGACCCGTACGGGAAGCCGTGGACCTGTGGCCCTGTGGCGTCATCCTGTATATCTTGTGTTGGGTAT  
 CCCCCGTTCTGGGATGAAGACCAGCATCGCCTGTACCAGCAGATCAAAGCTGGTGCCTATGATTTCCCAT  
 CACCAGAATGGGACACCGTCACCCAGAAAGCAAGGATCTGATCAATAAGATGCTGACCATCAACCCGTC  
 CAAACGCATCACGGCCGCTGAGGCTCTCAAGCACCCATGGATCTCGCACCGCTCCACCGTGGCCTCTGC  
 ATGCACAGACAGGAGACCGTGGACTGCCTGAAGAAGTTCAATGCCAGGAGGAACTGAAGGGAGCCATCC  
 TCACCACTATGCTGGCCACCAGAACTTCTCCGGAGGGAAGCGGAGGAAACAAGAAGAACGATGGTGT  
 GAAGGAATCTTCTGAGAGACCAACACCACCTTGAAGACGAAGACCAAAAGTGCACAAACAGGAAATT  
 ATCAAAGTGACAGAGCAGCTGATCGAAGCCATAAGCAATGGAGACTTTGAGTCTACACGAAGATGTGCG  
 ACCCTGGAATGACAGCCTTTGAACCAGAGCCCTGGGAACTGGTGGAGGGCCTGGACTTTCATCGATT  
 CTATTTTGAACCTGTGGTCCCGAACAGCAAGCCCGTGCACACCACCATCCTGAACCTCACATCCAC  
 CTGATGGGTGACGAGTACGCTGCATCGCTATATCCGCATCACTCAGTACCTGGATGCAGGCGGCATAC  
 CCCGCACGGCCAGTCAGAGGAGACCCGCTGTGGCACCGCAGGGACGGCAAATGGCAGATCGTCCACTT  
 CCACAGATCTGGGGCGCCCTCCGCTCTGCCGAT

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR207662 representing NM\_177407  
 Red=Cloning site Green=Tags(s)

MATITCTRFTTEEYQLFEELGKGAFSVVRRVCVKVLAGQEYAAKIINTKKSARDHQKLEREARICRLKHP  
 NIVRLHDSISEEGHLYIFDLVTGGELFEDIVAREYYSEADASHCIQQILEAVLHCHQMGGVVHRDLKPEN  
 LLLASKLKGAAVKLADFLAIEVEGEQQAWFGFAGTPGYLSPEVLRKDPYKPVDLWACGVILYILLVGY  
 PPFWDEDQHRLYQKIKAGAYDFPSPEWDTVTPEAKDLINKMLTINPSKRITAAEALKHPWISHRSTVASC  
 MHRQETVDCLKKFNARRKLGAILTTMLATRNFSGGKSGNKKNDGVKESSESTNTTIEDTKVRKQEI  
 IKVTEQLIEAISNGDFESYTKMCDPGMTAFEPEALGNLVEGLDFHRFYFENLWSRNSKPVHTTILNPHIH  
 LMGDESACIAYIRITQYLDAGGIPRTAQSEETRVWHRDQKQIVHFRSGAPSVLPH

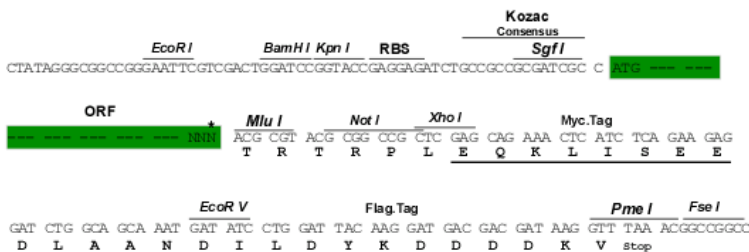
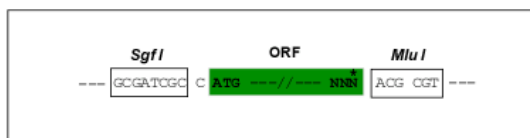
**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



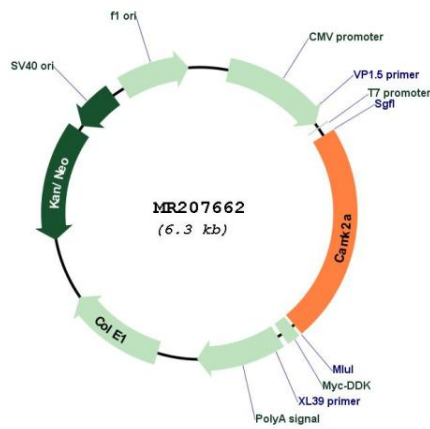
- ACCN:** NM\_177407
- ORF Size:** 1434 bp
- OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each 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

**MW:** 54.6 kDa

**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]

**Product images:**



Circular map for MR207662