

Product datasheet for **MG227045**

Camk2a (NM_009792) Mouse Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Camk2a (NM_009792) 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)
ORF Nucleotide Sequence: >MG227045 representing NM_009792
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGCTGCTCTTTCTCACGCTGTGGGCCCTGGTGCCTTGCCTGGTGTGCTAACCCCTACTTTCTCTCTCT
 CCACAGGAGGGAAGAGCGGAGGAAACAAGAAGAACGATGGTGTGAAGAAAAGAAAGTCCAGTTCAGCGT
 TCAGTTAATGGAATCTTCTGAGAGCACCAACACCACCATTTGAGGACGAAGACACCAAAGTGCCAAACAG
 GAAATTATCAAAGTGACAGAGCAGCTGATCGAAGCCATAAGCAATGGAGACTTTGAGTCTACACGAAGA
 TGTGCGACCCTGGAATGACAGCCTTTGAACCAGAGGCCCTGGGGAACCTGGTGGAGGGCCTGGACTTTCA
 TCGATTCTATTTGAAAACCTGTGGTCCCAGAACAGCAAGCCCGTGCACACCACCATCCTGAACCCCTCAC
 ATCCACCTGATGGGTGACGAGTCAGCCTGCATCGCCTATATCCGCATCACTCAGTACCTGGATGCAGGCG
 GCATACCCCGCACGGCCAGTCAGAGGAGACCCGCGTCTGGCACCCGAGGACGGCAAATGGCAGATCGT
 CCACCTCCACAGATCTGGGGCGCCCTCCGTCCTGCCGCAT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG227045 representing NM_009792
 Red=Cloning site Green=Tags(s)

MLLFLTLWALVPCLVLLTLYFLSSTGGKSGGNKNDGVKRRKSSSSVQLMESSESTNTTIEDEDTKVRKQ
 EIIKVTEQLIEAISNGDFESYTKMCDPGMTAFEPEALGNLVEGLDFHRFYFENLWSRNSKPVHTTILNPH
 IHLMGDESACIAYIRITQYLDAGGIPRTAQSEETRVVHRRDGKQIVHFHRSRGSVLP

TRTRPLE - GFP Tag - V

Restriction Sites: Sgfl-MluI

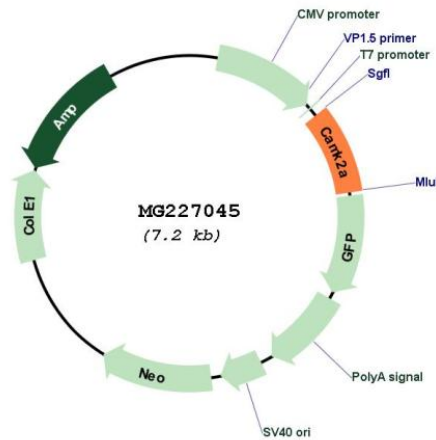


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Cloning Scheme:



Plasmid Map:



ACCN: NM_009792

ORF Size: 600 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_009792.3](#), [NP_033922.1](#)

RefSeq Size: 4268 bp

RefSeq ORF: 603 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]