

Product datasheet for **RR201121**

Camk2a (NM_012920) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Camk2a (NM_012920) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Camk2a
Synonyms:	PK2CDD; PKCCD
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RR201121 representing NM_012920
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCTACCATCACCTGCACCCGATTACGGAAGAGTACCAGCTCTTCGAGGAACTGGGAAAGGGAGCCT
 TCTCCGTGGTGGCAGGTGTGTGAAGGTGCTGGCTGGCCAGGAGTATGCTGCCAAGATTATCAACACCAA
 GAAGCTCTCAGCCAGAGATCACCAAGAAGTTGGAACGCGAGGCCCGCATCTGCCGCTTGTGAAGCACCC
 AATATCGTCCGACTCCATGACAGCATCTCCGAGGAGGGGCACCACTACCTTATCTTCGATCTGGTCACTG
 GTGGGGAGCTGTTCAAGACATTGTGGCCCGGAGTATTACAGTGAGGCTGATGCCAGCCACTGTATCCA
 GCAGATCTGGAGGCTGTGCTACACTGTCACCAGATGGGGTGGTGCATCGCGACCTGAAGCCTGAGAAT
 CTGTTGCTGGCTTCGAAGCTCAAGGGTGTGCGGTGAAGCTGGCAGACTTTGGCCTGGCCATAGAGGTTG
 AGGGAGAGCAGCAGGCATGGTTTGGGTTTCGAGGGACACCTGGATACCTCTCCCAGAAGTCTGCGGAA
 GGACCCATACGGGAAGCCTGTGGACCTGTGGCCCTGTGGCGTCATCTGTATATCTTGTCTGGTTGGGTAT
 CCCCCATTCTGGGATGAGGACCAGCACCCGCTGTACCAGCAGATCAAAGCTGGTGCCTACGATTTCCCAT
 CACCAGAATGGGACACCGTCACCCCGGAAGCAAGGATCTGATCAATAAGATGCTGACCATCAACCCGTC
 CAAACGCATCACGGCCGCTGAGGCTCTCAAGCACCCCTGGATCTCGCACCGCTCCACTGTGGCCTCTGC
 ATGCACAGACAGGAGACCGTGGACTGCCTGAAGAAGTTCAATGCCAGGAGGAACTGAAGGGAGCCATCC
 TCACCACTATGCTGGCCACCAGGAATCTCCGGAGGGAAGAGTGGAGGAAACAAGAAGAATGATGGCGT
 GAAGGAATCCTCTGAGAGACCAACACCACCATCGAGGATGAAGACCAAAAGTGCACCAACAGGAATTT
 ATCAAAGTGACAGAGCAGCTGATCGAAGCCATAAGCAATGGAGACTTTGAATCCTACACGAAGATGTGCG
 ACCCTGGAATGACAGCCTTTGAACCGGAGCCCTGGGAACTGGTTCGAGGGCCTGGACTTTCATCGATT
 CTATTTTGA AAAACCTGTGGTCCCGAACAGCAAGCCCGTGCACACCACCATCTGAACCCCTCACATCCAC
 CTGATGGGTGACGAGTCAGCCTGCATCGCTACATCCGCATCACTCAGTACCTGGATGCGGGTGGCATCC
 CCCGCACGGCCAGTCAGAGGAGACCCGTGTCTGGCACCGCAGGGATGGAAAATGGCAGATCGTCCACTT
 CCACAGATCTGGGGCGCCCTCCGCTCTGCCCAT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RR201121 representing NM_012920
 Red=Cloning site Green=Tags(s)

MATITCTRFTEEYQLFEELGKGAFSVVRRRCVKVLAGQEYAAKIINTKKSARDHQKLEREARICRLLKHP
 NIVRLHDSISEEGHHYLIFDLVTGGELFEDIVAREYYSEADASHCIQQILEAVLHCHQMGGVVHRDLKPEN
 LLLASKLKGAAVKLADFLAIEVEGEQQAWFGFAGTPGYLSPEVLRKDPYKPVDLWACGVILYILLVGY
 PPFWDEDQHRLYQKIKAGAYDFPSPEWDTVTPEAKDLINKMLTINPSKRITAAEALKHPWISHRSTVASC
 MHRQETVDCLKKFNARRKLKGAILLTMLATRNFSGGKSGNKKNDGVKESSESTNTTIEDEDTKVRKQEI
 IKVTEQLIEAISNGDFESYTKMCDPGMTAFEPEALGNLVEGLDFHRFYFENLWSRNSKPVHTTILNPHIH
 LMGDESACIAYIRITQYLDAGGIPRTAQSEETRVWHRDQKQIVHFHRSAPSPLPH

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/ja2352_e01.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_012920

ORF Size: 1434 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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.

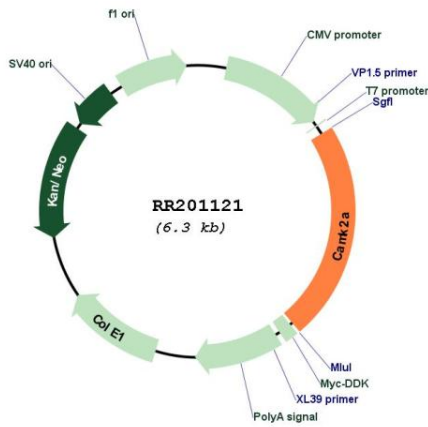
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- 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_012920.1, NP_037052.1](#)
RefSeq Size: 1510 bp
RefSeq ORF: 1437 bp
Locus ID: 25400
UniProt ID: [P11275](#)
Cytogenetics: 18q12.1
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 (PubMed:15312654). Regulates dendritic spine development. Also regulates the migration of developing neurons. Phosphorylates the transcription factor FOXO3 to activate its transcriptional activity (By similarity). [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RR201121