

## Product datasheet for **RN201121**

### Camk2a (NM\_012920) Rat Untagged Clone

#### Product data:

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



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**Fully Sequenced ORF:** >RN201121 representing NM\_012920  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCTACCATCACCTGCACCCGATTACGGAAGAGTACCAGCTCTTCGAGGAACTGGGAAAGGGAGCCT  
 TCTCCGTGGTGGCAGGTGTGTGAAGGTGCTGGCTGGCCAGGAGTATGCTGCCAAGATTATCAACACCAA  
 GAAGCTCTCAGCCAGAGATCACCAAGAAGTTGGAACGCGAGGCCCGCATCTGCCGCTTGTGAAGCACCC  
 AATATCGTCCGACTCCATGACAGCATCTCCGAGGAGGGGCACCACTACCTTATCTTCGATCTGGTCACTG  
 GTGGGGAGCTGTTCAAGACATTGTGGCCCGGAGTATTACAGTGAGGCTGATGCCAGCCACTGTATCCA  
 GCAGATCTGGAGGCTGTCTACACTGTCACCAGATGGGGTGGTGCATCGCGACCTGAAGCCTGAGAAT  
 CTGTTGCTGGCTTCAAGCTCAAGGGTGTGCGGTGAAGCTGGCAGACTTTGGCCTGGCCATAGAGGTTG  
 AGGGAGAGCAGCAGGCATGGTTTGGGTTGCGAGGGACACCTGGATACCTCTCCCAGAAGTCTGCGGAA  
 GGACCCATACGGGAAGCCTGTGGACCTGTGGCCCTGTGGCGTCATCCTGTATATCTTGCTGGTTGGGTAT  
 CCCCCATTCTGGGATGAGGACCAGCACCCGCTGTACCAGCAGATCAAAGCTGGTGCCTACGATTTCCCAT  
 CACCAGAATGGGACACCGTCACCCCGGAAGCAAGGATCTGATCAATAAGATGCTGACCATCAACCCGTC  
 CAAACGCATCACGGCCGCTGAGGCTCTCAAGCACCCCTGGATCTCGCACCCGCTCCACTGTGGCCTCTGC  
 ATGCACAGACAGGAGACCGTGGACTGCCTGAAGAAGTTCAATGCCAGGAGGAACTGAAGGGAGCCATCC  
 TCACCACTATGCTGGCCACCAGAACTTCTCCGGAGGGAAGAGTGGAGGAAACAAGAAGAATGATGGCGT  
 GAAGGAATCCTCTGAGAGCACCACCCATCGAGGATGAAGACCAAAGTGCACCAACAGGAAATT  
 ATCAAAGTGACAGAGCAGCTGATCGAAGCCATAAGCAATGGAGACTTTGAATCCTACACGAAGATGTGCG  
 ACCCTGGAATGACAGCCTTTGAACCGGAGGCCCTGGGAACTGGTTCGAGGGCCTGGACTTTCATCGATT  
 CTATTTTGAACCTGTGGTCCCGAACAGCAAGCCCGTGCACACCACCATCCTGAACCCCTCACATCCAC  
 CTGATGGGTGACGAGTACGCTGCATCGCTACATCCGCATCACTCAGTACCTGGATGCGGGTGGCATCC  
 CCCGCACGGCCAGTCAGAGGAGACCCGTGTCTGGCACCCGAGGGATGGAAAATGGCAGATCGTCCACTT  
 CCACAGATCTGGGGCGCCCTCCGCTCTGCCCAT**TGA**

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** Sgfl-Mlul  
**ACCN:** NM\_012920  
**Insert Size:** 1437 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](mailto: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](#)

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u><a href="#">NM_012920.1</a></u> , <u><a href="#">NP_037052.1</a></u>
<b>RefSeq Size:</b>	1510 bp
<b>RefSeq ORF:</b>	1437 bp
<b>Locus ID:</b>	25400
<b>UniProt ID:</b>	<u><a href="#">P11275</a></u>
<b>Cytogenetics:</b>	18q12.1
<b>Gene Summary:</b>	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]