

## Product datasheet for **MC228569**

### Prkcg (NM\_001291434) Mouse Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Prkcg (NM_001291434) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Prkcg
Synonyms:	Pkcc; PKCgamma; Prkcc
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**Fully Sequenced ORF:** >MC228569 representing NM\_001291434  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGCGGGTCTGGGCCCTGGCGGAGGCGACTCAGAGGGGGACCCGACCCTGTTTTGCAGAAAGGGG  
 CGCTGAGGCAGAAGGTGGTCCACGAGGTGAAGAGCCACAAGTTCACCGCTCGTTTCTCAAGCAGCCAAC  
 CTTCTGCAGTCACTGTACCGACTTCATCTGGGGCATTGAAAGCAGGGCCTGCAATGTCAAGTCTGTAGC  
 TTTGTGGTTACCGCCGATGCCACGAATTTGTGACCTTCGAGTGTCCAGGCGCTGAAAGGGCCCCAGA  
 CGGACGACCCTCGCAACAAGCACAAGTTCGGTCTGCACAGCTACAGCAGTCCCACCTTCTGCGACCACTG  
 TGGCTCCCTCCTTACGGGCTGGTGCACCAGGGCATGAAATGTTCTGTTGCGAGATGAATGTGCACCGG  
 CGCTGTGTGCGCAGCGTGCCTCCCTTTGCGGTGTGGACCACACAGAGCGCCGTGGACGTCTGCAACTGG  
 AAATCCGGGCTCCTACGTCGGATGAGATCCATATTACTGTTGGCAGGCCCGAACCTCATTCTATGGA  
 CCCAATGGCCTGTCTGATCCCTACGTGAACTGAAGCTGATCCCGACCCTCGAACCTGACAAAACAG  
 AAGACAAAGACCGTGAAAGCCACACTGAATCCCGTGTGGAACGAGACCTTCGTGTTCAACCTGAAGCCAG  
 GGGATGTAGAGCGCCGGCTCAGTGTGGAGGTGTGGGATTGGGATAGGACATCCCGAAATGACTTCATGGG  
 TGCCATGTCTTTGGTGTCTCAGAGCTACTCAAGGCCCTGTGGATGGATGGTACAAGTACTGAACCAG  
 GAGGAGGGCGAATATTACAATGTACCGTGGCCGATGCTGACAACTGCAGCCTCCTCCAGAAGTTTGAGG  
 CCTGCAATTACCCTTGGAAATGTATGAGGTAATGCTGGCAGAGCGCAGAGGCTCCGACGAACTCTATGC  
 CATCAAGATACTGAAGAAAGACGTCATCGTCCAGGATGACGATGTAGACTGCACCCTCGTAGAGAAGCGT  
 GTCCTGGCATTGGGAGGCCGAGGTCCTGGAGGCCGCCACACTTCTCACGCAGCTTCACTCCACCTTTC  
 AGACTCCGGACCCGCTGTATTTTGTGATGGAGTATGCTCACTGGGGCGATTTAATGTACCACATCCAGCA  
 ACTGGGCAAGTTTAAGGAGCCTCATGCAGCATTCTACGCTGCGGAAATCGCCATAGGCCTTCTTCTCCTT  
 CACAACCAGGGCATCATCTACAGGGACCTCAAGTTGGATAATGTGATGCTGGATGCTGAAGGACACATCA  
 AGATCACAGACTTTGGCATGTGTAAGAGAATGTCTTCCCTGGTCCACAACCCGCACCTTCTGTGGCAC  
 CCCAGACTACATAGCACCTGAGATCATTGCCTATCAGCCCTACGGGAAGTCTGTCGACTGGTGGTCTTTT  
 GGGGTCTGCTGTATGAGATGTTGGCAGGACAGCCACCCTTTGATGGGGAAGATGAGGAAGATTGTTTC  
 AAGCCATCATGGAACAACTGTCACCTATCCCAAGTCACTTTCCCGGAAGCTGTGGCCATCTGCAAAGG  
 GTTCTGACCAAGCACCAGAAAACGCTGGGCTCAGGGCCAGATGGGGAACCCACCATCCGGGCTCAT  
 GGCTTTTTCCGTTGGATCGATTGGGAGAGTTGGAGAGACTGGAATTCACCTCCTTTCAGACCAGTCT  
 CGTGTGGCCGAGTGGCGAAAACCTTTCAGAAAGTCTTTCAGCGGGCAGCGCCAGCACTGACCCCGCCAGA  
 CCGCTTGGTTCTAGCCAGCATCGACCAAGCTGATTTCCAGGGCTTACTTATGTGAACCCGGACTTCGTG  
 CACCCAGATGCCCGCAGCCCCACAAGCCCTGTGCCGTGCTGAT**GTA**

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI

**ACCN:** NM\_001291434

**Insert Size:** 1941 bp

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**OTI Annotation:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.

<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>NM_001291434.1, NP_001278363.1</u>
<b>RefSeq Size:</b>	2978 bp
<b>RefSeq ORF:</b>	1941 bp
<b>Locus ID:</b>	18752
<b>Cytogenetics:</b>	7 1.93 cM

**Gene Summary:**

Calcium-activated, phospholipid- and diacylglycerol (DAG)-dependent serine/threonine-protein kinase that plays diverse roles in neuronal cells and eye tissues, such as regulation of the neuronal receptors GRIA4/GLUR4 and GRIN1/NMDAR1, modulation of receptors and neuronal functions related to sensitivity to opiates, pain and alcohol, mediation of synaptic function and cell survival after ischemia, and inhibition of gap junction activity after oxidative stress. Binds and phosphorylates GRIA4/GLUR4 glutamate receptor and regulates its function by increasing plasma membrane-associated GRIA4 expression. In primary cerebellar neurons treated with the agonist 3,5-dihydroxyphenylglycine, functions downstream of the metabotropic glutamate receptor GRM5/MGLUR5 and phosphorylates GRIN1/NMDAR1 receptor which plays a key role in synaptic plasticity, synaptogenesis, excitotoxicity, memory acquisition and learning. May be involved in the regulation of hippocampal long-term potentiation (LTP), but may be not necessary for the process of synaptic plasticity. May be involved in desensitization of mu-type opioid receptor-mediated G-protein activation in the spinal cord, and may be critical for the development and/or maintenance of morphine-induced reinforcing effects in the limbic forebrain. May modulate the functionality of mu-type-opioid receptors by participating in a signaling pathway which leads to the phosphorylation and degradation of opioid receptors. May also contribute to chronic morphine-induced changes in nociceptive processing. Plays a role in neuropathic pain mechanisms and contributes to the maintenance of the allodynia pain produced by peripheral inflammation. Plays an important role in initial sensitivity and tolerance to ethanol, by mediating the behavioral effects of ethanol as well as the effects of this drug on the GABA(A) receptors. During and after cerebral ischemia modulate neurotransmission and cell survival in synaptic membranes, and is involved in insulin-induced inhibition of necrosis, an important mechanism for minimizing ischemic injury. Required for the elimination of multiple climbing fibers during innervation of Purkinje cells in developing cerebellum. Is activated in lens epithelial cells upon hydrogen peroxide treatment, and phosphorylates connexin-43 (GJA1/CX43), resulting in disassembly of GJA1 gap junction plaques and inhibition of gap junction activity which could provide a protective effect against oxidative stress. Phosphorylates p53/TP53 and promotes p53/TP53-dependent apoptosis in response to DNA damage. Involved in the phase resetting of the cerebral cortex circadian clock during temporally restricted feeding. Stabilizes the core clock component ARNTL/BMAL1 by interfering with its ubiquitination, thus suppressing its degradation, resulting in phase resetting of the cerebral cortex clock (PubMed:23185022).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (2) lacks an alternate in-frame exon compared to variant 1. The resulting isoform (2) has the same N- and C-termini but is shorter compared to isoform 1.