

Product datasheet for **MG222290**

Prkcg (NM_011102) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Prkcg (NM_011102) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Prkcg
Synonyms:	Pkcc; PKCgamma; Prkcc
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG222290 representing NM_011102
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCGGGTCTGGGCCCTGGCGGAGGCGACTCAGAGGGGGACCCGACCCTGTTTTGCAGAAAGGGG
 CGCTGAGGCAGAAGGTGGTCCACGAGGTGAAGAGCCACAAGTTCACCGCTCGTTTCTTCAAGCAGCCAAC
 CTTCTGCAGTCACTGTACCGACTTCATCTGGGGCATTGAAAGCAGGGCCTGCAATGTCAAGTCTGTAGC
 TTTGTGGTTACCGCCGATGCCACGAATTTGTGACCTTCGAGTGTCCAGGCGCTGAAAGGGCCCCCAGA
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 AAATCCGGGCTCCTACGTCGGATGAGATCCATATTACTGTTGGCGAGGCCCGAACCTCATTCTATGGA
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 AAGACAAAGACCGTGAAAGCCACACTGAATCCCGTGTGGAACGAGACCTTCGTGTTCAACCTGAAGCCAG
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 GAAGGACACATCAAGATCACAGACTTTGGCATGTGTAAGAGAATGTCTTCCCTGGGTCCACAACCCGCA
 CCTTCTGTGGCAGCCAGACTACATAGCACCTGAGATCATTGCCTATCAGCCCTACGGGAAGTCTGTGGA
 CTGGTGGTCTTTGGGGTCTGTGTATGAGATGTTGGCAGGACAGCCACCCTTTGATGGGGAAGATGAG
 GAAGAGTTGTTTCAAGCCATCATGGAACAACTGTACCTATCCAAGTCACTTTCCCGGAAGCTGTGG
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 CATCCGGGCTCATGGCTTTTCCGTTGGATCGATTGGGAGAGGTTGGAGAGACTGGAAATTGCACCTCCT
 TTCAGACCACGTCGTTGGCCGAGTGGCGAAAACCTTTGACAAGTTCTTACGCGGGCAGCGCCAGCAC
 TGACCCCGCCAGACCGCTTGGTTCTAGCCAGCATCGACCAAGCTGATTTCCAGGGCTTTACTTATGTGAA
 CCCGACTTCGTGACCCAGATGCCCGACGCCCAAGCCCTGTGCCGTGCCTGTCATG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG222290 representing NM_011102
 Red=Cloning site Green=Tags(s)

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MAGLPGGGDSEGGPRPLFCRKALRQKVVEVKSHKFTARFFKQPTFCSHCTDFIWGIGKQGLQCQVCS
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KTKTVKATLNPVWNETFVFNLPKPGDVERRLSVEVWDWDRTSRNDFMGAMSFVSELLKAPVDGWYKLLNQ
EEGEYYNVPVADADNCSLLQKFEACNYPLELYERVRMGPSSSPIPSPSPSPTDSKRCFFGASPGRLHISD
FSFLMVLGKGSFGKVMLAERRGSDLEYAIKILKKDVIVQDDVDCTLVEKRVLALGGRGPGGRPHFLTQL
HSTFQTPDRLYFVMEYVTGGDLMYHIQQLGKFKEPHAAFYAAEIAIGLFFLHNQGIYRDLKLDNVMMLDA
EGHIKITDFGMCKENVFPGSTTRTFCGTPDYIAPEIIAYQPYGKSVDWWSFGVLLYEMLAGOPPFDEGEDE
EELFQAIMEQTVTPKLSREAVAICKGFLTKHPGKRLGSGPDGEPTIRAHGFFRWIDWERLERLEIAPP
FRPRPCGRSGENFDKFFTRAAPALTPDRLVLASIDQADFQGFYVNPDPVHPDARSPTSPVVPVPM
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TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN: NM_011102

ORF Size: 2091 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_011102.4](#), [NP_035232.1](#)

RefSeq Size: 2715 bp

RefSeq ORF: 2094 bp

Locus ID: 18752

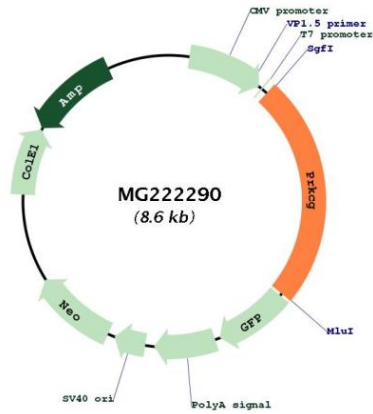
UniProt ID: [P63318](#)

Cytogenetics: 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]

Product images:



Circular map for MG222290