

## Product datasheet for **RC402644**

### PKC gamma (PRKCG) (NM\_002739) Human Mutant ORF Clone

#### Product data:

Product Type:	Mutant ORF Clones
Product Name:	PKC gamma (PRKCG) (NM_002739) Human Mutant ORF Clone
Mutation Description:	G360S
Affected Codon#:	360
Affected NT#:	1078
Nucleotide Mutation:	PRKCG Mutant (G360S), Myc-DDK-tagged ORF clone of Homo sapiens protein kinase C, gamma (PRKCG) as transfection-ready DNA
Effect:	Spinocerebellar ataxia 14
Symbol:	PRKCG
Synonyms:	PKC-gamma; PKCC; PKCG; PKCgamma; PKCI(3); SCA14
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_002739
ORF Size:	2091 bp
Restriction Sites:	Sgfi-MluI



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ORF Nucleotide  
Sequence:

>RC402644 representing NM\_002739  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCTGGTCTGGGCCCGCGTAGGCGATTAGAGGGGGACCCCGGCCCTGTTTTGCAGAAAGGGG  
 CCCTGAGGCAGAAAGTGGTCCACGAAGTCAAGAGCCACAAGTTCACCGCTCGCTTCTCAAGCAGCCAC  
 CTTCTGCAGCCACTGCACCGACTTCATCTGGGGTATCGAAAGCAGGGCCTGCAATGTCAAGTCTGCAGC  
 TTTGTGGTTTCATCGACGATGCCACGAATTTGTGACCTTCGAGTGTCCAGGCGCTGGGAAGGGCCCCAGA  
 CGGACGACCCCGGAACAACAAGTTCGCCCTGCATAGCTACAGCAGCCACCTTCTGCACCACTG  
 TGGCTCCCTCCTACGGGCTTGTGCACCAGGGCATGAAATGCTCCTGCTGCGAGATGAACGTGCACCGG  
 CGCTGTGTGCGTAGCGTCCCTCCCTGTGCGGTGTGGACCACACCGAGCGCCGGGGCGCCTGCAGCTGG  
 AGATCCGGGCTCCACAGCAGATGAGATCCACGTAACCTGTTGGCGAGGCCGTAACCTAATTCCTATGGA  
 CCCCATGGTCTCTGATCCCTATGTGAAACTGAAGCTCATCCAGACCCTCGGAACCTGACGAAACAG  
 AAGACCCGAACGGTGAAGCCACGCTAAACCCTGTGTGGAATGAGACCTTTGTGTCAACCTGAAGCCAG  
 GGGATGTGGAGCGCCGGCTCAGCGTGGAGGTGTGGGACTGGGACCGGACCTCCCGCAACGACTTCATGGG  
 GGCCATGTCTTTGGCGTCTCGGAGCTGCTCAAGGCGCCCGTGGATGGCTGGTACAAGTTACTGAACCAG  
 GAGGAGGGCGAGTATTACAATGTGCCGGTGGCCGATGCTGACAACTGCAGCCTCCTCCAGAAGTTTGAGG  
 CTTGTAACACCCCTGGAATTTGATGAGCGGGTGGGATGGGCCCTTCTCCTCCCATCCCCCCCC  
 TTCCCCTAGTCCACCGACCCCAAGCGCTGCTTCTCGGGGCGAGTCCAGGACGCTGCACATCTCCGAC  
 TTCAGCTTCTCATGGTTCTAGGAAAAGCAGTTTTGGAAAGGTGATGCTGGCCGAGCGCAGGGGCTCTG  
 ATGAGCTACGCCATCAAGATCTTAAAAAGGACGTGATCGTCCAGGACGACGATGTGGACTGCACGCT  
 GGTGGAGAAACGTGTGCTGGCGCTGGGGGGCCGGGGTCTTGGCGCCGGCCCACTTCTCACCCAGCTC  
 CACTCCACCTTCCAGACCCCGGACCGCCTGATTTTCGTGATGGAGTACGTACCGGGGGAGACTTGATGT  
 ACCACATTCAACAGCTGGGCAAGTTTAAGGAGCCCATGCAGCGTTCTACGCGGCAGAAATCGCTATCGG  
 CCTTCTTCTTCAATCAGGGCATCATCTACAGGGACCTGAAGCTGGACAATGTGATGCTGGATGCT  
 GAGGGACACATCAAGTCACTGACTTTGGCATGTGTAAGGAGAACGTCTTCCCGGGACGACAACCCGCA  
 CCTTCTGCGGGACCCCGACTACATAGCCCGGAGATCATTGCCTACCAGCCCTATGGGAAGTCTGTGCA  
 TTGGTGGTCTTTGGAGTCTGCTGTATGAGATGTTGGCAGGACAGCCTCCCTTCGATGGGGAGGACGAG  
 GAGGAGCTGTTTCAGGCCATCATGGAACAACTGTACCTACCCCAAGTCGCTTCCCGGAAGCCGTGG  
 CCATCTGCAAGGGTTCTTGACCAAGCACCCAGGGAAGCGCCTGGGCTCAGGGCCTGATGGGGAACCTAC  
 CATCCGTGCACATGGCTTTTCCGCTGGATTGACTGGGAGCGGCTGGAACGATTGGAGATCCCGCCTCCT  
 TTCAGACCCCGCCGTGTGGCCGACGGCGGAGAACTTTGACAAGTTCTTACGCGGGCGGCCAGCGC  
 TGACCCCTCCAGACCGCTAGTCTGGCCAGCATCGACCAGGCCGATTTCAGGGCTTACCTACGTGAA  
 CCCCAGCTTCTGTCACCCGGATGCCCGACGCCACCAGCCAGTGCCTGTGCCCGTCATG

AG**CGGACCC**ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:** >RC402644 representing NM\_002739  
 Red=Cloning site Green=Tags(s)

MAGLPGVGDSEGGPRPLFCRKALRQKVVHEVKSHKFTARFFKQPTFCSHCTDFIWGIGKQGLQCQVCS  
 FVVHRRCHEFVTFECPGAGKGPQTDDPRNKKHFRHLSYSSPTFCDHCGSLLYGLVHQGMKSCCEMNVHR  
 RCVRSVPSLCGVDHTERRGRLQLEIRAPTADEIHVTVGEARNLIPMDPNGLSDPYVKLKLIPDPRNLTKQ  
 KTRTVKATLNPVWNETFVFNLPKGDVERRLSVEVWDWDRTSRNDFMGAMSFVSELLKAPVDGWYKLLNQ  
 EEEGYNVPVADADNCSLLQKFEACNYPLELYERVRMGPPSSPIPSPPSPDPKRCFFGASPGRLHISD  
 FSFLMVLGKSSFGKVMLAERGSDELYAIKILKKDVIQDDDDVCTLVEKRVLALGGRGPGGRPHFLTQL  
 HSTFQTPDRLYFVMEYVTGGDLMYHIQQLGKFKEPHAAFYAAEIAIGLFFLHNQGIYRDLKLDNVLMDA  
 EGHIKITDFGMCKENVPGTTTTRTFCGTPDYIAPEIIAYQPYGKSVDDWWSFGVLLYEMLAGQPPFDGEDE  
 EELFQAIMEQTVTPKSLSREAVAICKGFLTKHPGKRLGSGPDGEPTIRAHGFFRWIDWERLERLEIPPP  
 FRPRPCGRSGENFDKFFTRAAPALTPPDRLLVASIDQADFQGFYVNPDFVHPDARSPTSPVVPVM

SGPTRRRLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<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>RefSeq:</b>	<a href="#">NP_002730</a>
<b>RefSeq Size:</b>	2091 bp
<b>RefSeq ORF:</b>	2094 bp
<b>Locus ID:</b>	5582
<b>Cytogenetics:</b>	19q13.42
<b>Domains:</b>	C2, pkinase, S_TK_X, TyrKc, DAG_PE-bind, S_TKc
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	Calcium signaling pathway, ErbB signaling pathway, Fc gamma R-mediated phagocytosis, Focal adhesion, Gap junction, Glioma, Leukocyte transendothelial migration, Long-term depression, Long-term potentiation, MAPK signaling pathway, Melanogenesis, Natural killer cell mediated cytotoxicity, Non-small cell lung cancer, Pathways in cancer, Phosphatidylinositol signaling system, Tight junction, Vascular smooth muscle contraction, VEGF signaling pathway, Vibrio cholerae infection, Wnt signaling pathway
<b>MW:</b>	76.7 kDa

**Gene Summary:**

Protein kinase C (PKC) is a family of serine- and threonine-specific protein kinases that can be activated by calcium and second messenger diacylglycerol. PKC family members phosphorylate a wide variety of protein targets and are known to be involved in diverse cellular signaling pathways. PKC also serve as major receptors for phorbol esters, a class of tumor promoters. Each member of the PKC family has a specific expression profile and is believed to play distinct roles in cells. The protein encoded by this gene is one of the PKC family members. This protein kinase is expressed solely in the brain and spinal cord and its localization is restricted to neurons. It has been demonstrated that several neuronal functions, including long term potentiation (LTP) and long term depression (LTD), specifically require this kinase. Knockout studies in mice also suggest that this kinase may be involved in neuropathic pain development. Defects in this protein have been associated with neurodegenerative disorder spinocerebellar ataxia-14 (SCA14). Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Oct 2015]