

Product datasheet for **RC402638**

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:	G123R
Affected Codon#:	123
Affected NT#:	367
Nucleotide Mutation:	PRKCG Mutant (G123R), 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:	Sgfl-Mlul



[View online »](#)

ORF Nucleotide
Sequence:

>RC402638 representing NM_002739
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGGCTGGTCTGGGCCCGCGT**AGGCGATT**CAGAGGGGGACCCCGGCCCTGTTTTGCAGAAAGGGG
CCCTGAGGCAGAAAGTGGTCCACGAAGTCAAGAGCCACAAGTTCACCGCTCGCTTCTCAAGCAGCCAC
CTTCTGCAGCCACTGCACCGACTTCATCTGGGGTATCGAAAGCAGGGCCTGCAATGTCAAGTCTGCAGC
TTTGTGGTTTCATCGACGATGCCACGAATTTGTGACCTTCGAGTGTCCAGGCGCTGGGAAGGGCCCCCAGA
CGGACGACCCCGGAACAACAAGTTCGCCTGCATAGCTACAGCAGCCACCTTCTGCACCCTG
TGGCTCCCTCCTACAGGCTTGTGCACCAGGGCATGAAATGCTCCTGCTGCGAGATGAACGTGCACCGG
CGCTGTGTGCGTAGCGTCCCTCCCTGTGCGGTGTGGACCACCCGAGCGCCGGGGCGCCTGCAGCTGG
AGATCCGGGCTCCACAGCAGATGAGATCCACGTAAGTGTGGCAGGGCCGTAACCTAATTCCTATGGA
CCCCAATGGTCTCTGATCCCTATGTGAAACTGAAGTCATCCAGACCCTCGGAACCTGACGAAACAG
AAGACCCGAACGGTGAAGCCACGCTAAACCCTGTGTGAATGAGACCTTTGTGTCAACCTGAAGCCAG
GGGATGTGGAGCGCCGGCTCAGCGTGGAGGTGTGGGACTGGGACCGGACCTCCCGCAACGACTTCATGGG
GGCCATGTCTTTGGCGTCTCGGAGCTGCTCAAGGCGCCCGTGGATGGCTGGTACAAGTACTGAACCAG
GAGGAGGGCGAGTATTACAATGTGCCGGTGGCCGATGCTGACAACTGCAGCCTCCTCCAGAAGTTTGAGG
CTTGTAACACCCCTGGAAATGTATGAGCGGGTGGGATGGGCCCTTCTCCTCCCATCCCCCCCC
TTCCCCTAGTCCACCGACCCCAAGCGCTGCTTCTCGGGCGAGTCCAGGACGCTGCACATCTCCGAC
TTCAGCTTCTCATGGTCTAGGAAAAGGCAGTTTTGGAAAGGTGATGCTGGCCGAGCGCAGGGGCTCTG
ATGAGCTACGCCATCAAGATCTTGA AAAAGGACGTGATCGTCCAGGACGACGATGTGGACTGCACGCT
GGTGGAGAAACGTGTGCTGGCGCTGGGGGGCCGGGGTCTGGCGGCCGGCCCACTTCTCACCCAGCTC
CACTCCACCTTCAGACCCCGGACCGCCTGATTTTCGTGATGGAGTACGTACCGGGGGAGACTTGATGT
ACCACATTCAACAGCTGGGCAAGTTTAAGGAGCCCATGCAGCGTTCTACGCGGCAGAAATCGCTATCGG
CCTCTTCTCCTTCACAATCAGGGCATCATCTACAGGGACCTGAAGCTGGACAATGTGATGCTGGATGCT
GAGGGACACATCAAGTACTGACTTTGGCATGTGTAAGGAGAAGCTTCCCCGGGACGACAACCCGCA
CCTTCTGCGGGACCCCGACTACATAGCCCCGGAGATCATTGCCTACCAGCCCTATGGGAAGTCTGTGCA
TTGGTGGTCTTTGGAGTCTGCTGTATGAGATGTTGGCAGGACAGCCTCCCTTCGATGGGGAGGACGAG
GAGGAGCTGTTTCAGGCCATCATGGAACAACTGTACCTACCCCAAGTCGCTTCCCCGGAAGCCGTGG
CCATCTGCAAGGGTTCTTGACCAAGCACCCAGGGAAGCGCCTGGGCTCAGGGCCTGATGGGGAACCTAC
CATCCGTGCACATGGCTTTTCCGCTGGATTGACTGGGAGCGGCTGGAACGATTGGAGATCCCGCCTCCT
TTCAGACCCCGCCCGTGTGGCCGAGCGGCGAGAACTTTGACAAGTCTTACGCGGGCGGCGCCAGCGC
TGACCCCTCCAGACCGCCTAGTCTGGCCAGCATCGACCAGGCCGATTTCAGGGCTTACCTACGTGAA
CCCCGACTTCGTGCACCCGGATGCCCGCAGCCCCACCAGCCAGTGCCTGTGCCCGTCATG

AG**CGGACCC**ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
TGGATTACAAGGATGACGACGA TAAGGTTTAA

Protein Sequence: >RC402638 representing NM_002739
 Red=Cloning site Green=Tags(s)

MAGLPGVGDSEGGPRPLFCRKALRQKVVHEVSKHKFTARFFKQPTFCSHCTDFIWGIGKQGLQCQVCS
 FVVHRRCHEFVTFECPGAGKGPQTDDPRNKKHFRHLSYSSPTFCDHCGSLLYRLVHQGMKSCCEMNVHR
 RCVRSVPSL CGVDHTERRGRLQLEIRAPTADEIHVTVGEARNLIPMDPNGLSDPYVKLKLIPDPRNLTKQ
 KTRTVKATLNPVWNETFVFNLKP GDVERRLSVEVWDWDRTSRNDFMGAMSFVSELLKAPVDGWYKLLNQ
 EEEGYNVPVADADNCSLLQKFEACNYPLELYERVRMGPPSSPIPSPPSPPTDPKRCFFGASPGRLHISD
 FSFLMVLGKGSFGKVM LAERGSDELYAIKILKKDVI VQDDVDCTLVEKRVLALGGRGPGGRPHFLTQL
 HSTFQTPDRLYFVMEYVTGGDLMYHIQQLGKFKEPHA AFYAAEIAIGLFFLHNQGI IYRDLKLDNMLDA
 EGHIKITDFGMCKENVP GTTTRTFCGTPDYIAPEIIAYQPYGKSVDWWSFGVLLYEMLAGQPPFDGEDE
 EELFQAIMEQTVTPKSL SREAVAICKGFLTKHPGKRLGSGPDGEPTIRAHGFFRWIDWERLERLEIPPP
 FRPRPCGRSGENFDKFFTRAAPALTPPDRLVLASIDQADFQGFYVNPDFVHPDARSPTSPVVPVM

SGPTRRRLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:



OTI Disclaimer:	<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 custsupport@origene.com 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. More info</p>
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).
RefSeq:	NP_002730
RefSeq Size:	2091 bp
RefSeq ORF:	2094 bp
Locus ID:	5582
Cytogenetics:	19q13.42
Domains:	C2, pkinase, S_TK_X, TyrKc, DAG_PE-bind, S_TKc
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	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
MW:	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]