

Product datasheet for **SC112717**

PKC gamma (PRKCG) (NM_002739) Human Untagged Clone

Product data:

| | |
|---------------------------|--|
| Product Type: | Expression Plasmids |
| Product Name: | PKC gamma (PRKCG) (NM_002739) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | PKC gamma |
| Synonyms: | PKC-gamma; PKCC; PKCG; PKCgamma; PKCI(3); SCA14 |
| Mammalian Cell Selection: | None |
| Vector: | <u>pCMV6-XL6</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |



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Fully Sequenced ORF:

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>OriGene ORF sequence for NM_002739 edited
ATGGCTGGTCTGGGCCCCGGCGTAGGCGATTTCAGAGGGGGGACCCCGGCCCTGTTTTGC
AGAAAGGGGGCTCTGAGGCAGAAGGTGGTCCACGAAGTCAAGAGCCACAAGTTCACCGCT
CGCTTCTTCAAGCAGCCACCTTCTGCAGCCACTGCACCGACTTCATCTGGGGTATCGGA
AAGCAGGGCCTGCAATGTCAAGTCTGCAGCTTTGTGGTTCATCGACGATGCCACGAATTT
GTGACCTTCGAGTGTCCAGGCGCTGGGAAGGGCCCCCAGACGGACGACCCCGGAACAAA
CACAAAGTCCGCCTGCATAGCTACAGCAGCCCCACCTTCTGCGACCACTGTGGCTCCCTC
CTCTACGGGCTTGTGCACCAGGGCATGAAATGCTCCTGCTGCGAGATGAACGTGCACCGG
CGCTGTGTGCGTAGCGTGCCCTCCCTGTGCGGTGTGGACCACACCGAGCGCCGCGGGCGC
CTGCAGCTGGAGATCCGGGCTCCCACAGCAGATGAGATCCACGTAACCTGTTGGGAGGCC
CGTAACCTAATTCCTATGGACCCCAACGGTCTCTCTGATCCCTATGTGAAACTGAAGCTC
ATCCCAGACCCTCGAACCTGACGAAACAGAAGACCCGAACGGTGAAGCCACGCTAAAC
CCTGTGTGGAATGAGACCTTTGTGTTCAACCTGAAGCCAGGGGATGTGGAGCGCCGGCTC
AGCGTGGAGGTGTGGGACTGGGACCGGACCTCCCGCAACGACTTCATGGGGGCCATGTCC
TTTGGCGTCTCGGAGCTGCTCAAGGCGCCCGTGGATGGCTGGTACAAGTACTGAACCAG
GAGGAGGGCGAGTATTACAATGTCCCGTGGCCGATGCTGACAACCTGCAGCCTCCCCAG
AAGTTTGAGGCTTGTAACTACCCCTGGAATTGTATGAGCGGGTGCAGGATGGGCCCTCT
TCTCTCCCATCCCTCCCTTCCCTTAGTCCCACCGACCCCAAGCGCTGCTTCTTCGGG
GCGAGTCCAGGACGCCTGCACATCTCCGACTTCAGCTTCTCATGGTCTTAGGAAAAGGC
AGTTTTGGGAAGGTGATGCTGGCCGAGCGCAGGGGCTCTGATGAGCTCTACGCCATCAAG
ATCTTGAAAAAGGACGTGATCGTCCAGGACGACGATGTGGACTGCACGCTGGTGGAGAAA
CGTGTGCTGGCGCTGGGGGGCCGGGTCTGGCGGCCGGCCCACTTCTCACCCAGCTC
CACTCCACCTTCCAGACCCCGGACCGCCTGTATTTGATGATGGAGTACGTACCCGGGGGA
GACTTGATGTACCACATTCAACAGCTGGGCAAGTTTAAGGAGCCCATGCAGCTTCTAC
GCGGCAGAAATCGCTATCGGCCTCTTCTTCTTCAACATCAGGGCATCATCTACAGGGAC
CTGAAGCTGGACAATGTGATGCTGGATGCTGAGGGACACATCAAGATCACTGACTTTGGC
ATGTGTAAGGAGAACGTCTTCCCGGGACGACAACCCGCACCTTCTGCGGGACCCCGGAC
TACATAGCCCCGGAGATCATTGCCTACCAGCCCTATGGGAAGTCTGTGATTGGTGGTCC
TTTGGAGTTCTGCTGTATGAGATGTTGGCAGGACAGCCTCCCTTCGATGGGGAGGACGAG
GAGGAGCTGTTTCAGGCCATCATGGAACAACTGTCACCTACCCCAAGTCGCTTTCCTGG
GAAGCCGTGGCCATCTGCAAGGGTTTCTGACCAAGCACCCAGGGAAGCGCTGGGCTCA
GGGCTGATGGGGAACCTACCATCCGTGCACATGGCTTTTTCCGCTGGATTGACTGGGAG
CGGCTGGAACGATTGGAGATCCCGCCTCTTTCAGACCCCGCCGTGTGGCCGCAGCGGC
GAGAACTTTGACAAGTTCTTACGCGGGCGGGCCAGCGCTGACCCCTCCAGACCGCCTA
GTCCTGGCCAGCATCGACCAGGCCGATTCCAGGGCTTACCTACGTGAACCCCGACTTC
GTGACCCCGGATGCCCGCAGCCCCACCAGCCAGTGCCTGTGCCCGTCATGTAA
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5' Read Nucleotide Sequence:

>OriGene 5' read for NM_002739 unedited
 CCCCCGCCCGTTGNCGCAAAGGGCGGTAGGCGTGTACGGTGGNGAGTCTATATAAGCAG
 AGCTCATTTAGGTGACACTATAGAATACAAGCTACTTGTCTTTTTGCAGCGGCCGCGAA
 TTCGGCACGAGGCCCTGGCGGAGCCGGCGCGCCGGGGTCCCGCTCCCTGCCTGGCGCGC
 TCCGCACCTGGAGGTGCCTTGCCTCTCCTGCCACCTCGGAATTTCCCTGTGGCTCCT
 TTGATCCTTCGAGTCTCCAGCTCCTCTCCCTTCCACCTGTTTCCCCAAGAAAGGCAGGA
 TCCTGGTCCCTGCTACGTTTCTGGGGCCATGGCTGGTCTGGGCCCCGGCGTAGGGCATT
 AGAGGGGGGACCCCGGCCCTGTTTTGCAGAAAGGGGGCTCTGAGGCAGAAGGTGGTCCA
 CGAAGTCAAGAGCCACAAGTTCACCGCTCGCTTCTTCAAGCAGCCACCTTCTGCAGCCA
 CTGCACCGACTTCATCTGGGGTATCGGAAAGCAGGGCCTGCAATGTCAAGTCTGCAGCTT
 TGTGGTTCATCGACGATGCCACGAATTTGTGACCTTCGAGTGTCCAGGCCTGGGAAGGG
 CCCCCAGACGGACACCCCGGAACAAACAAGTTCGCTGCATAGCTACAGCAGCCC
 CACCTTCTGCGACCACTGTGGCTCCCTCCTCTACGGGCTGTGTCACCAGGGCATGAAATG
 CTCCTGCTGCGAGATGAACGTGCACCGGCGCTGTGTGCGTAGCGTGCCCTCCTGTGCGGT
 GTGGACACACCGAGCGCCCGGCGCTGCACTGGAGATCCCGGGCTCCACACAAAGAGATC
 CACGTACTGTTGGCGAGGCCGTACCTATTNCTATGACCCACGCTCTCTGTGCCTATGT
 GAACTGAGCTCANCCAGACCTCGAACTGACGACAGAGACCGACGTGAAGCAGCTAACCTG
 TGTGAAGAAAN

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_002739 unedited
 NNNAAATTAAGTGNACCGCGCCGATTCTANGATCGAGTTTTTTTTTTTTTTTTTTTTCAGC
 ATCAGCATCCCAAATTTATTCTCCAGCAGCTGTGGCCGGTGGGAGAGGCTAAGGAAGA
 GGAGGGGAGGAGAGAGTCCCAGAGAGTGGCAGGCACTGGGAGAGTTGGGGTGGTCCG
 AGCCAGACAGGAGCCATGCACGGCAGGGGGCTGCGGGGAGAAGTATGGCTTCGGGATG
 GGAAGTCTAGAACAAAAGCTGATTGGGAGCCTCTGGGAAAGAATCCTCCATATATCCC
 AGAAATCCCCAGAGCACAGCAGCGGGACGTAAGGAGGAGGGGGCACGCTCCCACTCA
 TCTAGAAGTAGAGTGGAGGCGGGGAGCCTCGGAGGCCGAGGGCTGTTCTGGAACCTGAGT
 CTGGAACAGCCAACCCCGTGGAGGCTATTTCCCCAGGGCGGGGTCTGGGGGAGGCACAG
 AACTACCAAGATGGAGTCTCGAACCCCATGGAGTTGGGGATGGTTAGTGGTGTGGTCTCT
 GGACCCGATTGGGGCAGAGTCCAGAACGCTAAGGTCAGGGAGAATATCGGGCTCCGCTCA
 AGTCTTGAACGCGGGACGGCTGTAGAGGCTGTATGGAGTTCAGAAGGCCAGGAACGCTTG
 GGAGGGGCGTCTAGAACCCGCGGGGCGAGACTGGAATGCTGGGGTGCAGGATCTAGAAT
 GGGACAGGGGGTGGTGAAGTTGGGGTGAAGTGGGGGCTGGCCGCCNNGCACGCNGAGG
 GGACGTTGGGACACCTAGTGGCGGCGGGTGAATACATGACGGGCACAGGCACTGGGCT
 GGTGGGGCTGCCGGCATCCGGGTGCACGAAGTCCGGGTTCAACGTAGTGAAGCCCTGGAA
 ATCGCCTGTTTCGATGCTGGCCAGNAT

Restriction Sites:

NotI-NotI

ACCN:

NM_002739

Insert Size:

3500 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 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](#)

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_002739.3](#), [NP_002730.1](#)

RefSeq Size: 3143 bp

RefSeq ORF: 2094 bp

Locus ID: 5582

UniProt ID: [P05129](#)

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

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]

Transcript Variant: This variant (2) differs in the 3' UTR and coding sequence compared to variant 1. The resulting isoform (2) has a shorter and distinct C-terminus compared to isoform 1.