

Product datasheet for **MR227179**

Prkcb (NM_008855) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Prkcb (NM_008855) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Prkcb
Synonyms:	PKC-B; PKC-Beta; Pkcb; Prkcb1; Prkcb2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide
Sequence:

>MR227179 ORF sequence

Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGGCTGACCCGGCTGCGGGGCCCGCCGAGCGAGGGCGAGGAGACAGTGCCTTCGCCCGCAAAG
GCGCCCTCCGGCAGAAGAACGTGCACGAGGTGAAGAACCACAAATTCACCGCCCGCTTCTCAAGCAGCC
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CCTCTGATGACCCCGGAGCAAACAAGTTAAGATCCACACGTACTCCAGTCTACCTTCTGTGACCA
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AAGCGTTCGTGATGAACGTCCCAGCCTTCGCGCACTGACCACACGGAACGCCGCGCCGCATCTATA
TCCAGGCCACATCGACAGAGAGTTCTCATTGTTGTTGTAAGAGATGCTAAAAATCTGGTACCTATGGA
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CTTATCAGCCCTACGGGAAGTCTGTGGACTGGTGGGCATTTGGAGTCTGCTGTATGAAATGTTGGCTGG
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CCCAAGTCCATGTCCAAGGAAGCCGTGGCAATCTGCAAAGGGCTAATGACCAAACACCCAGGCAAGCGCC
TGGGTTGTGGCCCTGAAGGGGAACGAGACATTAAGGAGCATGCGTTTTTCCGGTATATTGACTGGGAGAA
ACTCGAACGCAAGGAGATTGAGCCACCTTATAAACCAAAAAGCTTGTGGGCGAAACGCTGAAAACCTCGAC
CGGTTTTTACCCGCCATCCACCAGTCTAACACCTCCTGACCAGGAAGTCATCAGGAATATTGACCAAT
CAGAATTCGAAGGATTTCTTTGTTAACTCTGAATTTTTAAACCTGAAGTCAAGAGC

ACGCGTACGCGGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR227179 protein sequence
Red=Cloning site Green=Tags(s)

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MADPAAGPPPSEGEESTVRFARKGALRQKNVHEVKNHKFTARFFKQPTFCSHCTDFIWGFQKQGFQCQVC
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KRCVMNVPSLCGTDHTERRGRIYIQAHDREVLI VVVRDAKNLVPMDPNGLSDPYVKLKLIPDPKSESKQ
KTKTIKCSLNPEWNETFRFQLKESDKDRRLSVEIWDWDLTSRNDFMGSLSFGISSELOKAGVDGWFKLLSQ
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GSFGKVMLSERKGTDEL YAVKILKDVVIQDDVECTMVEKRVLALPGKPPFLTQLHSCFQTMDRLYFVM
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NIWDGVTTKTFCGTPDYIAPEIIAYQPYGKSVDDWWAFGVLLYEMLAGQAPFEGEDEDLQFSIMEHNVAY
PKSMSKEAVAICKGLMTKHPGKRLGCGPEGERDIKEHAFFRYIDWEKLERKEIQPPYKPKACGRNAENFD
RFFTRHPPVLTTPDQEVIRNIDQSEFEGFSFVNSEFLKPEVKS
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TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



ACCN: NM_008855

ORF Size: 2022 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_008855.2](#), [NP_032881.1](#)

RefSeq Size: 8830 bp

RefSeq ORF: 2022 bp

Locus ID: 18751

UniProt ID: [P68404](#)

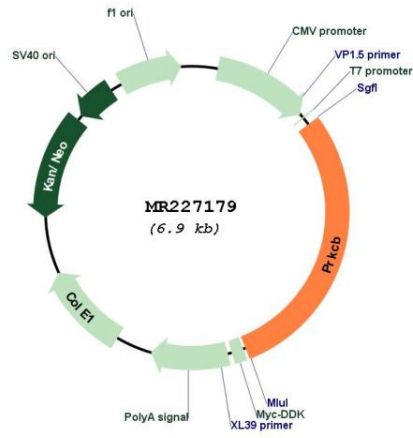
Cytogenetics: 7 65.75 cM

MW: 76.9 kDa

Gene Summary:

Calcium-activated, phospholipid- and diacylglycerol (DAG)-dependent serine/threonine-protein kinase involved in various cellular processes such as regulation of the B-cell receptor (BCR) signalosome, oxidative stress-induced apoptosis, androgen receptor-dependent transcription regulation, insulin signaling and endothelial cells proliferation. Plays a key role in B-cell activation by regulating BCR-induced NF-kappa-B activation. Mediates the activation of the canonical NF-kappa-B pathway (NFKB1) by direct phosphorylation of CARD11/CARMA1 at 'Ser-559', 'Ser-644' and 'Ser-652'. Phosphorylation induces CARD11/CARMA1 association with lipid rafts and recruitment of the BCL10-MALT1 complex as well as MAP3K7/TAK1, which then activates IKK complex, resulting in nuclear translocation and activation of NFKB1. Plays a direct role in the negative feedback regulation of the BCR signaling, by down-modulating BTK function via direct phosphorylation of BTK at 'Ser-180', which results in the alteration of BTK plasma membrane localization and in turn inhibition of BTK activity. Involved in apoptosis following oxidative damage: in case of oxidative conditions, specifically phosphorylates 'Ser-36' of isoform p66Shc of SHC1, leading to mitochondrial accumulation of p66Shc, where p66Shc acts as a reactive oxygen species producer. Acts as a coactivator of androgen receptor (ANDR)-dependent transcription, by being recruited to ANDR target genes and specifically mediating phosphorylation of 'Thr-6' of histone H3 (H3T6ph), a specific tag for epigenetic transcriptional activation that prevents demethylation of histone H3 'Lys-4' (H3K4me) by LSD1/KDM1A. In insulin signaling, may function downstream of IRS1 in muscle cells and mediate insulin-dependent DNA synthesis through the RAF1-MAPK/ERK signaling cascade. Participates in the regulation of glucose transport in adipocytes by negatively modulating the insulin-stimulated translocation of the glucose transporter SLC2A4/GLUT4. Phosphorylates SLC2A1/GLUT1, promoting glucose uptake by SLC2A1/GLUT1. Under high glucose in pancreatic beta-cells, is probably involved in the inhibition of the insulin gene transcription, via regulation of MYC expression. In endothelial cells, activation of PRKCB induces increased phosphorylation of RB1, increased VEGFA-induced cell proliferation, and inhibits PI3K/AKT-dependent nitric oxide synthase (NOS3/eNOS) regulation by insulin, which causes endothelial dysfunction. Also involved in triglyceride homeostasis. Phosphorylates ATF2 which promotes cooperation between ATF2 and JUN, activating transcription (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR227179