

Product datasheet for **MC220319**

Prkcb (NM_008855) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Prkcb (NM_008855) Mouse Untagged Clone
Tag:	Tag Free
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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Fully Sequenced ORF: >MC220319 representing NM_008855
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCTGACCCGGCTGCGGGGCCCGCCGAGCGAGGGCGAGGAGACAGTGCCTTCGCCCGCAAAG
 GCGCCCTCCGGCAGAAGAACGTGCACGAGGTGAAGAACCACAAATTCACCGCCCGCTTCTCAAGCAGCC
 CACCTTCTGCAGCCACTGCACCGACTTCATCTGGGGCTTCGGAAGCAGGGATCCAGTGTCAAGTCTGC
 TGCTTTGTGTACACAAGCGCTGCCATGAGTTCGTACGTTCTCCTGCCCGGTGCGGACAAGGGCCCGG
 CCTCTGATGACCCCGGAGCAAACAAGTTAAGATCCACACGTACTCCAGTCTACCTTCTGTGACCA
 CTGTGGATCGCTGTATGGACTTATTCACCAGGGGATGAAATGCGACACCTGTATGATGAACGTGCAC
 AAGCGTCCGTGATGAACGTCCCAGCCTCTGCGGCACTGACCACACGGAACGCCGCGCCGCATCTATA
 TCCAGGCCACATCGACAGAGAGTTCTCATTGTTGTTGTAAGAGATGCTAAAAATCTGGTACCTATGGA
 CCCAATGGCTTGTGAGTCCCTACGTTAAACTGAACTGATCCCTGATCCCAAAAGTGAGAGCAAACAG
 AAGACCAAGACCAAGTGTCCCTCAATCCAGAGTGAATGAAACCTTCAGATTCAGCTGAAGGAAT
 CAGACAAAGACAGAAGACTGTCTGTAGAGATCTGGGATTGGGACCTGACCAGCAGGAATGACTTCATGGG
 ATCTCTGTCAATTTGGGATTTAGAACTACAGAAAGCCGGTGTGGATGGCTGGTCAAGTTACTAAGCCAG
 GAAGAGGGTGAATACTTCAATGTGCCCGTCCGCCCGAAGGAAGCGAGGGCAATGAAGAGCTGCGGCAGA
 AGTTTGAGAGAGCCAAGATTGGCCAAGGTACCAAGGCTCCAGAAGAAAAGACAGCTAACACTATCTCAA
 ATTTGACAACAATGGCAACAGGGACCGGATGAACTGACCGATTTAACTTCTGATGGTGTGGGGAAA
 GGCAGCTTTGGCAAGGTGATGCTCTCAGAGCGGAAGGGTACAGATGAACTCTATGCCGTGAAGATCCTGA
 AGAAGGACGTGGTATCCAAGATGACGATGTGGAGTGCACCATGGTGGAGAAGCGGGTGTGGCCCTGCC
 TGGGAAGCCCGCTTCTGACTCAGCTCCATTCTGCTTCCAGACCATGGACCGCCTGTACTTTGTGATG
 GAGTATGTGAACGGGGTACCTCATGTACCACATCCAACAAGTTGGCCGTTTCAAGGAGCCCATGCTG
 TATTTTACCGCAGAGATTGCCATCGCTGTCTTCTTTCAGAGCAAGGGCATTATTTACCGCGACCT
 GAACTTGACAACGTGATGCTGGATTCTGAGGGGCACATCAAAATCGCTGACTTTGGCATGTGTAAGGAG
 AACATCTGGGATGGGGTGAACCAAGACATTCTGTGGCACTCCGGACTACATTGCTCCAGAGATCATTG
 CTTATCAGCCCTACGGGAAGTCTGTGGACTGGTGGCATTGGAGTCTGCTGTGAAATGTTGGCTGG
 CCAGGCACCGTTGAAGGGGAGGATGAGGATGAACTCTCCAGTCAATCATGGAACACAATGTGGCGTAT
 CCCAAGTCCATGTCCAAGGAAGCCGTGGCAATCTGCAAAGGGCTAATGACCAAACCCAGCAAGCGCC
 TGGGTTGTGGCCCTGAAGGGGAACGAGACATTAAGGAGCATGCGTTTTTCCGGTATATTGACTGGGAGAA
 ACTCGAACGCAAGGAGATTGAGCCACCTTATAAACCAAAAAGCTTGTGGGCGAAACGCTGAAAACCTCGAC
 CGGTTTTTACCCGCCATCCACCAGTCTAACACCTCCTGACCAGGAAGTCATCAGGAATATTGACCAAT
 CAGAATTCGAAGGATTTCTTTGTTAACTCTGAATTTTTAAACCTGAAGTCAAGAGCT**TAA**

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-MluI
- ACCN:** NM_008855
- Insert Size:** 2022 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- 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

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]

Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (1).