

## Product datasheet for **MC220305**

### Prkca (NM\_011101) Mouse Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Prkca (NM_011101) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Prkca
Synonyms:	A1875142; Pkca
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >MC220305 representing NM\_011101  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCTGACGTTTACCCGGCCAACGACTCCACGGCGTCTCAGGACGTGGCCAACCGTTTCGCCCGCAAAG  
 GGGCGCTGAGGCAGAAGAACGTGCATGAGGTGAAAGACCACAAATTCATCGCCCGCTTCTCAAGCAACC  
 CACCTTCTGCAGCCACTGCACCGACTTCATCTGGGGTTTGGGAAACAAGGCTTCCAGTGCCAAGTTTGC  
 TGTTTTGTGGTTCATAAGAGGTGCCATGAGTTCGTTACGTTCTCTTGTCCGGGTGCGGATAAGGGACCTG  
 AACTGACGACCCAGGAGCAAGCACAAGTTCAAATCCACACATACGGAAGCCCTACCTTCTGTGATCA  
 CTGTGGTCCCTGCTCTATGGACTTATCCACCAAGGGATGAAATGTGACACCTGCGACATGAATGTTTAC  
 AAGCAGTGTGTGATCAATGTCCCTAGCCTCTGCGGAATGGATCACACAGAGAAGAGGGGGCGGATTTATC  
 TGAAGGCTGAGGTCACTGATGAAAAGCTCCACGTCACGGTACGAGATGCAAAAAATCTAATCCCTATGGA  
 TCCAAATGGGCTTTCGGATCCTTATGTGAAGCTGAACTTATCCCTGACCCCAAGATGAGAGCAAACAG  
 AAAACCAAAACCTCCGCTCCACACTGAATCCTCAGTGAATGAGTCCTTACGTTCAAATTAACCTT  
 CAGACAAAGACCGGCGACTGTCTGTAGAAATCTGGGACTGGGATCGGACGACTCGGAATGACTTCATGGG  
 ATCCCTTCTCTTGGTGTCTCAGAGCTAATGAAGATGCCGGCCAGTGGATGGTATAAACTGCTCAACCA  
 GAAGAGGGCGAATACTACAATGTGCCATTCCAGAAGGAGATGAAGAAGGCAACATGGAAGTCAAGCAGA  
 AGTTTGAGAAAGCCAAGCTAGGCCCTGTGGTAAACAAAGTCATCAGCCCTTCCAGAAGACAGAAAGCAACC  
 ATCCAACAACCTGGACAGAGTAACTCACAGACTTCACTTCTCATGGTGTGGGGAAGGGGAGTTTT  
 GGAAGGTGATGCTTGTGACAGGAAGGGAACGGAGGAAGTGTACGCCATCAAGATCCTGAAGAAGGACG  
 TGGTGTCCAGGACGACGACGTGGAGTGACCATGGTGGAGAAGCGGTGCTGGCCCTGCTGGACAAGCG  
 GCCATTTCTGACACAGCTGCACTCCTGCTTCCAGACAGTGGACCGGCTGTACTTCGTATGGAATACGTC  
 AACGGCGGGGACCTCATGTACCACATTCAGCAAGTCGGGAAATTTAAGGAGCCACAAGCAGTATTCTACG  
 CAGCCGAGATCTCCATCGGACTGTTCTTCTTCAAAAAGAGGGATCATTTACAGGGATCTGAAGCTGGA  
 CAATGTATGCTGGACTCAGAAGGGCACATCAAATCGCCGACTTTGGGATGTGCAAGGAACACATGATG  
 GATGGAGTACGACCAGGACCTTCTGTGGGACTCCGGACTACATTGCCCCAGAGATAATCGCTTACCAGC  
 CGTACGGGAAGTCTGTAGATTGGTGGGCGTACGGTGTGCTGTACGAGATGTAGCCGGGACGCTCC  
 GTTTGATGGTGAAGATGAAGATGAAGTGTTCAGTCTATAATGGAGCACAACTGTCTACCCCAATCC  
 TTGTCCAAGGAAGCCGTCTATCTGCAAAGGACTTATGACCAAAACCCCTGCCAAGCGGCTGGGCTGCG  
 GGCCCGAGGGAGAGGGATGTCAGAGAGCATGCCTTCTCAGGAGAATCGACTGGGAGAACTGGAGAA  
 CAGGGAGATCCAACCACATTCAAGCCAAAGTGTGTGGCAAAGGAGCAGAAAACCTTTGACAAGTCTTC  
 ACGCGAGGACAGCCTGTCTTAACACCACAGATCAGCTGGTCAATTGCTAACATAGACCAATCTGATTTTG  
 AAGGGTCTCGTATGTCAACCCCGATTTGTGCACCCAATCTTGCAAAGTGCAGT**ATGA**

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** Sgfl-Mlul
- ACCN:** NM\_011101
- Insert Size:** 2019 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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_011101.3</a> , <a href="#">NP_035231.2</a>
<b>RefSeq Size:</b>	8385 bp
<b>RefSeq ORF:</b>	2019 bp
<b>Locus ID:</b>	18750
<b>UniProt ID:</b>	<a href="#">P20444</a>
<b>Cytogenetics:</b>	11 70.8 cM
<b>Gene Summary:</b>	<p>Calcium-activated, phospholipid- and diacylglycerol (DAG)-dependent serine/threonine-protein kinase that is involved in positive and negative regulation of cell proliferation, apoptosis, differentiation, migration and adhesion, cardiac hypertrophy, angiogenesis, platelet function and inflammation, by directly phosphorylating targets such as RAF1, BCL2, CSPG4, TNNT2/CTNT, or activating signaling cascades involving MAPK1/3 (ERK1/2) and RAP1GAP. Depending on the cell type, is involved in cell proliferation and cell growth arrest by positive and negative regulation of the cell cycle. Can promote cell growth by phosphorylating and activating RAF1, which mediates the activation of the MAPK/ERK signaling cascade, and/or by up-regulating CDKN1A, which facilitates active cyclin-dependent kinase (CDK) complex formation. In cells stimulated by the phorbol ester PMA, can trigger a cell cycle arrest program which is associated with the accumulation of the hyper-phosphorylated growth-suppressive form of RB1 and induction of the CDK inhibitors CDKN1A and CDKN1B. Depending on the cell type, exhibits anti-apoptotic function and protects cells from apoptosis by suppressing the p53/TP53-mediated activation of IGFBP3, or mediates anti-apoptotic action by phosphorylating BCL2. During macrophage differentiation induced by macrophage colony-stimulating factor (CSF1), is translocated to the nucleus and is associated with macrophage development. After wounding, translocates from focal contacts to lamellipodia and participates in the modulation of desmosomal adhesion. Plays a role in cell motility by phosphorylating CSPG4, which induces association of CSPG4 with extensive lamellipodia at the cell periphery and polarization of the cell accompanied by increases in cell motility. During chemokine-induced CD4(+) T cell migration, phosphorylates CDC42-guanine exchange factor DOCK8 resulting in its dissociation from LRCH1 and the activation of GTPase CDC42 (By similarity). Negatively regulates myocardial contractility and positively regulates angiogenesis, platelet aggregation and thrombus formation in arteries. Mediates hypertrophic growth of neonatal cardiomyocytes, in part through a MAPK1/3 (ERK1/2)-dependent signaling pathway, and upon PMA treatment, is required to induce cardiomyocyte hypertrophy up to heart failure and death, by increasing protein synthesis, protein-DNA ratio and cell surface area. Regulates cardiomyocyte function by phosphorylating cardiac troponin T (TNNT2/CTNT),</p>

which induces significant reduction in actomyosin ATPase activity, myofilament calcium sensitivity and myocardial contractility. In angiogenesis, is required for full endothelial cell migration, adhesion to vitronectin (VTN), and vascular endothelial growth factor A (VEGFA)-dependent regulation of kinase activation and vascular tube formation. Involved in the stabilization of VEGFA mRNA at post-transcriptional level and mediates VEGFA-induced cell proliferation. In the regulation of calcium-induced platelet aggregation, mediates signals from the CD36/GP4 receptor for granule release, and activates the integrin heterodimer ITGA2B-ITGB3 through the RAP1GAP pathway for adhesion. During response to lipopolysaccharides (LPS), may regulate selective LPS-induced macrophage functions involved in host defense and inflammation. But in some inflammatory responses, may negatively regulate NF-kappa-B-induced genes, through IL1A-dependent induction of NF-kappa-B inhibitor alpha (NFKBIA/IKBA). Upon stimulation with 12-O-tetradecanoylphorbol-13-acetate (TPA), phosphorylates EIF4G1, which modulates EIF4G1 binding to MKNK1 and may be involved in the regulation of EIF4E phosphorylation. Phosphorylates KIT, leading to inhibition of KIT activity. Phosphorylates ATF2 which promotes cooperation between ATF2 and JUN, activating transcription.[UniProtKB/Swiss-Prot Function]