

## Product datasheet for **MR227620**

### Prkcz (NM\_008860) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Prkcz (NM_008860) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Prkcz
Synonyms:	AI098070; aPKCzeta; C80388; nPKC-zeta; Pkcz; R74924; zetaPKC
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR227620 representing NM\_008860  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCCAGCAGGACGGACCCCAAGATGGACCGGAGCGCGCGCGTCCGTCTGAAGGCGCACTACGGCG  
 GGGACATCCTGATTACCAGCGTGGATGCCATGACAACATTCAAGGACCTCTGTGAGGAAGTGCGAGACAT  
 GTGTGGCCTGCACCAGCAGCACCCACTCACCTCAAGTGGGTGGACAGTGAAGGTGACCCTGTACTGTG  
 TCCTCACAGATGGAGCTGGAGGAGGCCCTCCGCTGGTCTGTGAGGGCAGGGACGAAGTGTCTATCATTC  
 ATGTTTTCCCAAGCATCCAGAGCAGCCGGGATGCCCTTGTCTGGAGAAGACAAGTCCATCTACCGCCG  
 TGGAGCCAGAAGATGGAGGAAGCTGTACCGAGCCAACGGCCACCTTCCAAGCCAAGCGCTTAAACAGG  
 GGAGCGTACTGCGGCCAGTGCAGCGAAAGGATATGGGGTCTCTCGAGGCAGGGCTACAGGTGCATCACT  
 GCAAGCTGCTGGTCCATAAACGCTGCCACGTCTCGTCCCGCTGACCTGCAGGAGGCATATGGATTCTGT  
 CATGCCCTCCCAAGAGCCTCCAGTAGATGACAAGAACGATGGTGTAGACCTTCTTCAGAAGAACTGAT  
 GGAATTGCTTATATTTCTTCATCTCGGAAACATGATAATATCAAAGATGATTCTGAGGACCTTAAGCCTG  
 TCATCGATGGGGTGGATGGGATCAAATCTCTCAGGGGCTGGGGCTGCAAGACTTCGACCTCATCAGAGT  
 CATCGGGCGTGAAGCTATGCCAAGTCCCTCTGGTGGGTTGAAGAAAAACGACCAGATTTACGCCATG  
 AAGGTGGTAAAGAAGGAGCTTGTCCACGACGACGAGGATATCGACTGGGTGCAGACAGAGAAACATGTGT  
 TTGAGCAGGCGTCCAGCAACCCCTTCTGGTGGCTTACACTCTGTCCAGACAACGAGCCGGTGTGT  
 CCTGGTTCAGATGTCAATGGCGGGACCTCATGTTCCACATGCAGAGGCAGAGAAACTTCCAGAG  
 GAGCATGCCAGGTTCTATGCTGCTGAGATCTGTATCGTCTCACTTCTGCATGAGAGGGGATCATCT  
 ACCGGGACCTAAAACGGACAACGCTCTCTTGTATGCCGACGGACACATTAAGCTGACGGGATACGCGAT  
 GTGCAAGGAAGGCTAGGCCCGGTGATACAACAAGCACTTTTTGTGGAACCCCGAACTATATCGCCCCC  
 GAAATCTGCGAGGAGAAGAGTACGGGTTACGCGTGGACTGGTGGGCACTGGGTGTCTTATGTTTGAGA  
 TGATGGCTGGGCGCTCCCCCTTTGACATCATCACGGACAACCCTGACATGAACACTGAAGACTACCTTTT  
 CCAAGTTATCCTGGAAGCCAAATCCGATTCCCCGTTTCTGTCTGTCAAGGCTCACACGCTTAAAA  
 GGATTTTTAAATAAGGATCCCAAAGAGAGGCTTGGCTGCCGGCCACAGACTGGGTTTTCCGACATCAAGT  
 CTCATGCTTTCTCCGACGATAGACTGGGACCTGCTGAAAAGAAGCAGACCCTGCCTCCCTTCCAGCC  
 CCAGATCACAGATGACTATGGCCTGGACAACCTTGGACACGAGTTCACCAGCGAGCTGTGCAGCTGACC  
 CCAGATGATGAGGACGTATAAAGAGGATCGACCAGTCCGAATTTGAAGGCTTTGAGTACATCAACCCAC  
 TTCTGCTGTCTGCTGAGGAGTCCGTG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR227620 representing NM\_008860  
 Red=Cloning site Green=Tags(s)

MPSRTDPKMDRSGGRVRLKAHYGGDILITSVDAMTTFKDLCEEVRDMCGLHQHPLTLKWVDSEGDPTV  
 SSQMELEEAFLVCQGRDEVLIHVFPSIPEQPMPCPGEDKSIYRRGARRWRKLYRANGHLFQAKRFNR  
 GAYCGQCSERIWGLSRQGYRCINCKLLVHKRCHVLVPLTCRRHMDSVMPSQEPPVDDKNDGVDLPSEETD  
 GIAYISSRKHDNIKDDSEDLPVIDGVDGIKISQGLGLQDFDLIRVIGRGSYAKVLLVRLKKNQIYAM  
 KVVKKELVHDDDEDWVQTEKHVFEQASSNPFLVGLHSCFQTTSRFLVIEYVNGDLMFHMQRQRKLPE  
 EHARFYAAEICIALNFLHERGIIYRDLKLDNVLLDADGHIKLDYGMCKEGLGPGDSTFCGTPNYIAP  
 EILRGEEYGFSDWWALGVLFMEMMAGRSPFDIITDNPDMNTEDYLFQVILEKPIRIPRFLSVKASHVLK  
 GFLNKDPKERLGRPQTGFSDIKSHAFFRSIDWDLLEKKQLPPFPQITDDYGLDNFDTQFTSEPVQLT  
 PDDEDVIKRIDQSEFEGFEYINPLLLSAEESV

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mm9009\\_h12.zip](https://cdn.origene.com/chromatograms/mm9009_h12.zip)

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_008860

ORF Size: 1776 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\\_008860.3](#), [NP\\_032886.2](#)

RefSeq Size: 4283 bp

RefSeq ORF: 1779 bp

Locus ID: 18762

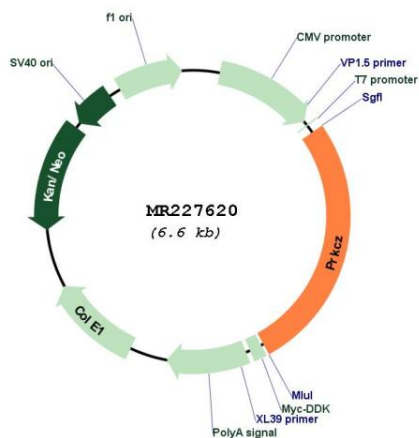
UniProt ID: [Q02956](#)

Cytogenetics: 4 86.17 cM

MW: 68.1 kDa

**Gene Summary:** Calcium- and diacylglycerol-independent serine/threonine-protein kinase that functions in phosphatidylinositol 3-kinase (PI3K) pathway and mitogen-activated protein (MAP) kinase cascade, and is involved in NF-kappa-B activation, mitogenic signaling, cell proliferation, cell polarity, inflammatory response and maintenance of long-term potentiation (LTP). Upon lipopolysaccharide (LPS) treatment in macrophages, or following mitogenic stimuli, functions downstream of PI3K to activate MAP2K1/MEK1-MAPK1/ERK2 signaling cascade independently of RAF1 activation. Required for insulin-dependent activation of AKT3, but may function as an adapter rather than a direct activator. Upon insulin treatment may act as a downstream effector of PI3K and contribute to the activation of translocation of the glucose transporter SLC2A4/GLUT4 and subsequent glucose transport in adipocytes. In EGF-induced cells, binds and activates MAP2K5/MEK5-MAPK7/ERK5 independently of its kinase activity and can activate JUN promoter through MEF2C. Through binding with SQSTM1/p62, functions in interleukin-1 signaling and activation of NF-kappa-B with the specific adapters RIPK1 and TRAF6. Participates in TNF-dependent transactivation of NF-kappa-B by phosphorylating and activating IKBKB kinase, which in turn leads to the degradation of NF-kappa-B inhibitors. In migrating astrocytes, forms a cytoplasmic complex with PARD6A and is recruited by CDC42 to function in the establishment of cell polarity along with the microtubule motor and dynein. In association with FEZ1, stimulates neuronal differentiation in PC12 cells. In the inflammatory response, is required for the T-helper 2 (Th2) differentiation process, including interleukin production, efficient activation of JAK1 and the subsequent phosphorylation and nuclear translocation of STAT6. May be involved in development of allergic airway inflammation (asthma), a process dependent on Th2 immune response. In the NF-kappa-B-mediated inflammatory response, can relieve SETD6-dependent repression of NF-kappa-B target genes by phosphorylating the RELA subunit at 'Ser-311'. In vein endothelial cells treated with the oxidant peroxynitrite, phosphorylates STK11 leading to nuclear export of STK11, subsequent inhibition of PI3K/Akt signaling, and increased apoptosis. Phosphorylates VAMP2 in vitro (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR227620