

## Product datasheet for **MG226922**

### Prkcq (NM\_008859) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Prkcq (NM_008859) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Prkcq
Synonyms:	A130035A12Rik; AW494342; PKC-0; PKC-theta; Pkcq; PKCtheta
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

ORF Nucleotide  
Sequence:

>MG226922 representing NM\_008859  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGTCACCGTTTCTTGAATCGGTTTATCCAACCTTGACTGTGGGACCTGCCAAGCTTGTACAGGAGAGG  
CAGTGAACCCCTACTGCGCTGTGCTTGTCAAAGAGTATGTGGAATCAGAAAATGGGCAGATGTACATCCA  
GAAAAAGCCAACCATGTACCCACCTTGGGACAGCACCTTTGACGCCACATTAACAAGGGAAGGGTGATG  
CAGATCATCGTGAAGGGCAAGAATGTAGACCTCATCTCAGAAAACAACCGTGAACCTACTCCCTGGCGG  
AGAGATGCCGCAAGAACAATGGGCGGACAGAAATATGGTTAGAGCTGAAACCTCAAGGCCGAATGCTAAT  
GAATGCAAGATACTTTCTGAAAATGAGTGACACAAAGGACATGAGTGAGTTTGAAGTGAAGGATCTTT  
GCACTGCATCAGCGCCGAGGAGCCATCAAACAGGCCAAAGTCCACCATGTCAAGTGCACGATTCACGG  
CCACCTTTTTCCCTCAACCCACATTTTGTCTGTCTGCCATGAATTTGTCTGGGGCTGAACAAGCAGGG  
TTACCAGTGCCGACAGTGAATGCAGCGATTACAAGAAGTGCATTGATAAAGTGTAGCCAAGTGACACA  
GGATCCGCAATCAATAGCCGAGAAAACCATGTTCCATAAGGAGAGATTCAAGATCGACATGCCACACAGAT  
TCAAAGTCTACAACCTACAAGAGTCCAACCTTCTGTGAGCACTGTGGTACCTGCTCTGGGGCTGGCGAG  
GCAAGGACTCAAATGTGATGCATGTGGCATGAACGTCCACCACCGATGCCAGACAAAAGTTGCCAATCTT  
TGTGGTATAAACCAGAAGCTAATGGCTGAAGCACTAGCGATGATTGAAAGCACCAACAGGCTCGCTCCT  
TACGAGATTCAGAACACATCTTCCGAGAAGGCCAGTTGAAATTTGGTCTCCCATGCTCCACCAAAAAACGA  
AACCAGGCCACCATGCGTACCAACACCTGGGAAAAGAGAACCCAGGGCATTTCCTGGGATTCCTTTTG  
GATGGGTCAAATAAATCGGCCGGTCTCCTGAACCCGAAGTGAAGTGCATGCGCAGGACTTACTGCAGCTGA  
AACTGAAGATCGATGACTTCCTGCACAAGATGTTGGGAAAAGGAAGTTTTGGCAAGGTCTTCTGCGC  
AGAGTTCAAGAGAACCAATCAGTTTTTTCGCAATAAAAGCCTTAAAGAAAAGATGTGGTGTGATGGATGAT  
GACGTCGAGTGTACAATGGTGGAAAAGAGGGTTCTGTCCTTGGCATGGGAGCATCCATTTCTAACACACA  
TGTCTGCACATTCAGACCAAGGAAAATCTCTTTTTCTGATGGAGTATCTCAATGGAGGCGACTTAAT  
GTACCACATCAAAGTTGCCACAAATTTGATCTTCCAGAGCCACGTTTTATGCTGCTGAGGTCATCCTT  
GGTCTGCAGTTCCTTCATTCAAAGGAATTGTCTACAGGGACCTGAAGCTTGATAATATCCTGTTAGACA  
GAGATGGACATATCAAAATAGCAGACTTTGGGATGTGCAAAGAGAACATGCTAGGAGATGCGAAGACAAA  
TACTTTCTGTGGAACCTGACTACATTGCTCCGGAGATCTTGTGGTCAAGTACAACCATTCCGTC  
GACTGGTGGTCTTCCGGGTGCTCGTTTATGAGATGCTGATTGGCCAGTCCCCCTCCACGGGCAGGACG  
AGGAGGAGCTGTCCACTCCATCCGCATGGACAACCCCTTCTACCCGAGGTGGCTCGAAAAGGAGGCCAA  
GGACCTTCTAGTGAAGCTTTTTGTGAGAGAACCTGAGAAGAGGCTGGGAGTGAGAGGAGACATCCGCCAG  
CATCCTTTGTTTCGAGAGATCAACTGGGAAGAGCTTGAAGGAAAAGAGATTGACCCACCTTCAGACCAA  
AAGTGAATCACCATATGACTGTAGCAATTTGACAAGGAATTCCTAAGTGAAGAAAACCCGGCTATCATT  
CGCCGACAGAGCACTCATCAACAGCATGGACCAGAACATGTTTCAGCAACTTTTCTTCATTAACCCAGGG  
ATGGAGACTCTCATTGCTCC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG226922 representing NM\_008859  
 Red=Cloning site Green=Tags(s)

MSPFLRIGLSNFDGTCQACQGEAVNPYCAVLVKEYVESENGQMYIQKKPTMYPPWDSTFDAHINKGRVM  
 QIIYVKGKNVDLISETTVELYSLAERCNRKNGRTEIWLELKPQGRMLMNARYFLEMSDTKDMSEFENEGFF  
 ALHQRRGAIKQAKVHHVKCHEFTATFFPQPTFCSVCHEFVWGLNKQGYQCRQCNAAIHKKCIDKVIKCT  
 GSAINSRETMFHKERFKIDMPHRFKVYNYKSPTFCEHCGLLLWGLARQGLKCDACGMNVHHRQCQTKVANL  
 CGINQKLMAEALAMIESTQQARSLRDSEHIFREGPVEIGLPCSTKNETRPPCVPTPGKREPOGISWDSPL  
 DGSNKSAGPPEPEVSMRRTSLQLKLIKIDDFILHKMLGKGSFGKVFLLAEFKRTNQFFAIKALKKDDVVLMD  
 DVECTMVEKRVLSLAWHPFLTHMFCFQTKENLFFVMEYLNNGDLMYHIQSCHKFDLSRATFYAAEVL  
 GLQFLHSKGIYVYRDLKLDNILLDRDGHKIADFGMCKENMLGDAKTNTFCGTPDYIAPEILLGQKYNHVS  
 DWWSFGVLVYEMLIGQSPFHGQDEEELFHSIRMDNPFYPRWLERAKDLLVKLVREPEKRLGVRGDIRQ  
 HPLFREINWEELERKEIDPPFRPKVKSPYDCSNFDKEFLSEKPRLSFADRALINSMQNMFSNFSFINPG  
 METLICS

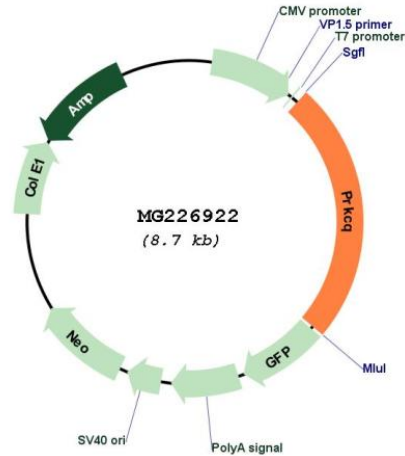
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



**Plasmid Map:**


**ACCN:** NM\_008859

**ORF Size:** 2121 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\\_008859.2](#), [NP\\_032885.1](#)

**RefSeq Size:** 3313 bp

**RefSeq ORF:** 2124 bp

Locus ID: 18761

UniProt ID: [Q02111](#)

Cytogenetics: 2 8.42 cM

**Gene Summary:** Calcium-independent, phospholipid- and diacylglycerol (DAG)-dependent serine/threonine-protein kinase that mediates non-redundant functions in T-cell receptor (TCR) signaling, including T-cells activation, proliferation, differentiation and survival, by mediating activation of multiple transcription factors such as NF-kappa-B, JUN, NFATC1 and NFATC2. In TCR-CD3/CD28-co-stimulated T-cells, is required for the activation of NF-kappa-B and JUN, which in turn are essential for IL2 production, and participates in the calcium-dependent NFATC1 and NFATC2 transactivation. Mediates the activation of the canonical NF-kappa-B pathway (NFKB1) by direct phosphorylation of CARD11 on several serine residues, inducing CARD11 association with lipid rafts and recruitment of the BCL10-MALT1 complex, which then activates IKK complex, resulting in nuclear translocation and activation of NFKB1. May also play an indirect role in activation of the non-canonical NF-kappa-B (NFKB2) pathway. In the signaling pathway leading to JUN activation, acts by phosphorylating the mediator STK39/SPAK and may not act through MAP kinases signaling. Plays a critical role in TCR/CD28-induced NFATC1 and NFATC2 transactivation by participating in the regulation of reduced inositol 1,4,5-trisphosphate generation and intracellular calcium mobilization. After costimulation of T-cells through CD28 can phosphorylate CBLB and is required for the ubiquitination and subsequent degradation of CBLB, which is a prerequisite for the activation of TCR. During T-cells differentiation, plays an important role in the development of T-helper 2 (Th2) cells following immune and inflammatory responses, and, in the development of inflammatory autoimmune diseases, is necessary for the activation of IL17-producing Th17 cells. May play a minor role in Th1 response. Upon TCR stimulation, mediates T-cell protective survival signal by phosphorylating BAD, thus protecting T-cells from BAD-induced apoptosis, and by up-regulating BCL-X(L)/BCL2L1 levels through NF-kappa-B and JUN pathways. In platelets, regulates signal transduction downstream of the ITGA2B, CD36/GP4, F2R/PAR1 and F2RL3/PAR4 receptors, playing a positive role in 'outside-in' signaling and granule secretion signal transduction. May relay signals from the activated ITGA2B receptor by regulating the uncoupling of WASP and WIPF1, thereby permitting the regulation of actin filament nucleation and branching activity of the Arp2/3 complex. May mediate inhibitory effects of free fatty acids on insulin signaling by phosphorylating IRS1, which in turn blocks IRS1 tyrosine phosphorylation and downstream activation of the PI3K/AKT pathway. Phosphorylates MSN (moesin) in the presence of phosphatidylglycerol or phosphatidylinositol. Phosphorylates PDPK1 at 'Ser-504' and 'Ser-532' and negatively regulates its ability to phosphorylate PKB/AKT1.[UniProtKB/Swiss-Prot Function]