

Product datasheet for **MG211037**

Prkd2 (NM_178900) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Prkd2 (NM_178900) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Prkd2
Synonyms:	A1325941; PKD2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG211037 representing NM_178900
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCCGCGCCCCCTCCATCCCGCAGGACTCCCGGCTCTCCGGGGCCCGGTCTCCTCCGCCCCCG
 GTGGCTTGGATCTCCAGTCGCCGCCACCTCTGCTGCCTCAGATCCCGGCTCCGGGTTCCGGGGTCTCCTT
 CCATATCCAGATCGGATTGACCCGAGAGTTCGTGCTGTTGCCGGCTGCCTCAGAGTTGGCTCATGTGAAG
 CAACTAGCCTGTTCTATCGTGGACCAGAAGTCCAGAGTGTGGCTTCTACGGCCTGTACGACAAGATCC
 TGCTCTTCAAACATGACCAACATCAGCCAACCTCCTGCAGCTGGTGGCATCAGCTGCAGATATCCAGGA
 GGGTGACCTGGTGGAGGTGGTCTGTGGCCTCGGCCACCTTCGAGGATTTCCAGATCCGACCGCATGCT
 CTCACTGTGCACTCGTACCGCGCTCCCGCTTCTGTGACCACTGCGGGGAGATGCTCTTCGGCCTCGTGC
 GCCAGGGCCTCAAGTGCATGGCTGCGGGCTGAATTACCACAAACGCTGCGCCTTCAGCATCCCGAACAA
 CTGCAGTGGTGCAGAAAGCGCCGCTGTCATCCACGTCTCTGGCCAGTGGCCATTCTGTGCGCCTTGGC
 AGCTCCGAGTCTTACCCTGCACCGCCGAAGAGCTGAGCCGTAGCACACCGACCTCCTTCTCGCCGAC
 CACCCTCGTCGTCTCCTCCTCTTCTTCTTCTTCTACACAGGCCGACCCATTGAGTTGGACAAGAT
 GCTGATGTCCAAGGTCAAGGTGCCACACACCTTCTTATACATAGCTACACACGGCCACCGTTTCCAG
 GCTTGAAGAAACTGCTCAAGGTCTATTCCGCCAGGGCTGCAGTGCAAAGACTGCAAGTTAACTGTC
 ACAAAACGCTGTGTACCCGCGTCCCTAACGACTGCCTGGGGGAGGCGCTCATCAATGGAGACGTGCCGAT
 GGAGGAAGCCGCTGATTACAGTGAGGCTGATAAGAGCTCCATCTCAGATGAGTTGGAGATTCTGGTGTCT
 ATCCCCGGCTCCCACTCAGAGAGTGTCTCCATGCCAGTGAGGAAGGAAGGCGAGGGACACAAGGCC
 AGAGCTCGTGGGATACATCCCCCTGATGCGCGTGGTACAGTCTGTGCGACACACGACCCGGAAATCCAG
 CACCACCCTGCGGGAGGGCTGGGTGGTCCATTACAGCAACAAGGACACACTGAGGAAACGGCACTACTGG
 CGTCTAGACTGTAATGCATTACCCTCTTCCAGAACAACACGACCAACAGATACTACAAGGAAATCCCGC
 TGTCTGAAATCCTTGGGTGGAACCGGCTCAGAACTTCAGCCTCGTACCCCGGGCACCAACCCACACTG
 CTTGAGATCATCAGGCCAATGTCACCTACTTTGTGGGCGAAACCCCTGGCGGGCCCCGGGAGGGCCA
 AGTGGACAGGGAACAGAGGCCGTTCCGGGTTGGGAGACAGCCATCCGCCAGGCACTGATGCCGTTATCC
 TCCAAGATGCGCCAGTCCCGGGGCACACCCGCACAGACAAGCGTCTCTGAGTATCTCCGTGCCAA
 CAGTCAGATCCAAGAGAATGTGGATATCGCCACTGTCTACCAGATCTTCCAGATGAGGTGCTGGGCTCT
 GGGCAGTTTGGAGTGGTTTATGGAGGAAAACACAGGAAGACTGGCAGAGACGTTGCAGTAAAGGTCATTG
 ACAAACTGCGCTTCCCCACCAAGCAGGAGGCCAGCTCAGGAATGAAGTGGCCATTCTCCAGAGTCTACG
 GCACCCCGGGATTGTGAACCTCGAGTGCATGTTTGAGACTCCTGAGAAGGTATTCTGGTGTGAGAAA
 CTGCACGGGGACATGTTGGAGATGATCCTCTCCAGTGAGAAGGGCCGGCTTCTGAGCGTCTCACCAGT
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 TGCTCAACCAGGGTTACAACCGCTCGCTGGACATGTGGTCCGTGGGTGTGATCATGTACGTGAGCCTTAG
 TGGCAGTTCCCTTCAATGAGGACGAGGACATCAATGACCAGATACAGAACCGCGCTTATGTACCCCG
 GCCAGCCCTGGAGCCACATCTCATCTGGAGCCATCGACCTCATCAACAACCTGTTGCAGGTGAAGATGC
 GCAAGCGCTACAGCGTGGACAAGTCTCTCAGCCACCCATGGTTACAGGAGTACCAGACGTGGCTTACCT
 CCGAGAGCTAGAGGAAAGATGGGCGAGCGATATATCACGCACGAGAGCGACGACGCACGCTGGGATCAG
 TTTGTGGCAGAGCGCCATGGGACTCCTGCAGAAGGGGACCTGGGTGGCGCTGTCTGCCGACGACCACG
 AGATGCAGGGGCTGGCTGAGCGCATCAGCATCCTC

ACCGGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG211037 representing NM_178900
 Red=Cloning site Green=Tags(s)

MAAAPSHPAGLPGSPGPGSPPPPGGLDLQSPPLLPQIPAPGSGVSFHIQIGLTREFVLLPAASELAHVK
 QLACSIVDQKFPCEGFYGLYDKILLFKHDPTSANLLQLVRSADIQEGDLVEVLSASATFEDFQIRPHA
 LTVHSYRAPAFCDHCGEMLFGLVRQGLKCDGCLNYHKRCAF SIPNNCSGARKRRLSSTSLASGHSVRLG
 SSES L PCTAEELSRSTTDLLPRRPPSSSSSSSSSSSFYTGRPIELDKMLMSKVVPHTFLIHSYTRPTVCQ
 ACKKLLKGLFRQGLQCKDCKFNCHKRCATRVNDCLGEALINGDVPMEEAADYSEADKSSISDELEDSGV
 IPGSHSEALHASEEEEEEGHKAQSSLYIPLMRVVQSVRHTTRKSSTTLREGWVVHYSNKDTRLRKRHYW
 RLDCKCITLQNTTNRYYKEIPLSEILAVEPAQNFSLVPPGTNPHCFEIIITANVTYFVGETPGGAPGGP
 SGQGTEAVRGWETAIRQALMPVILQDAPSAPGHTPHRQASLSISVSNSQIQENVDIATVYQIFPDEVLGS
 GQFVVYGGKHKRTGRDVAVKVIDKLRFPKQESQLRNEVAILQSLRHPGIVNLECMFETPEKVFVVMKE
 LHGDMLEMILSSEKGRLEPERLTKFLITQILVALRHLHFKNIVHCDLKPENVLLASADFPQVKLCDFGFA
 RIIIGESFRRSVVGTPAYLAPEVLLNQYNRSLDMWSVGVIMYVSLSGTFPFNEDEDINDQIQNAAFMYP
 ASPWSHISSGAIDLINLLQVKMRKRYSDKSLSHPWLQEYQTWLDLRELEGKMGERYITHESDDARWDQ
 FVAERHGTPAEGDLGGACLPQDHEMQGLAERISIL

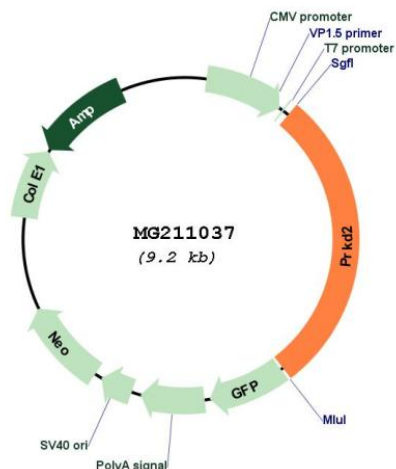
TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_178900

ORF Size: 2625 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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_178900.4](#), [NP_849231.1](#)

RefSeq Size: 3625 bp

RefSeq ORF: 2628 bp

Locus ID: 101540

UniProt ID: [Q8BZ03](#)

Cytogenetics: 7 A2

Gene Summary: Serine/threonine-protein kinase that converts transient diacylglycerol (DAG) signals into prolonged physiological effects downstream of PKC, and is involved in the regulation of cell proliferation via MAPK1/3 (ERK1/2) signaling, oxidative stress-induced NF-kappa-B activation, inhibition of HDAC7 transcriptional repression, signaling downstream of T-cell antigen receptor (TCR) and cytokine production, and plays a role in Golgi membrane trafficking, angiogenesis, secretory granule release and cell adhesion (PubMed:17226786, PubMed:20819079). May potentiate mitogenesis induced by the neuropeptide bombesin by mediating an increase in the duration of MAPK1/3 (ERK1/2) signaling, which leads to accumulation of immediate-early gene products including FOS that stimulate cell cycle progression (PubMed:17226786). In response to oxidative stress, is phosphorylated at Tyr-438 and Tyr-718 by ABL1, which leads to the activation of PRKD2 without increasing its catalytic activity, and mediates activation of NF-kappa-B (By similarity). In response to the activation of the gastrin receptor CCKBR, is phosphorylated at Ser-244 by CSNK1D and CSNK1E, translocates to the nucleus, phosphorylates HDAC7, leading to nuclear export of HDAC7 and inhibition of HDAC7 transcriptional repression of NR4A1/NUR77 (By similarity). Upon TCR stimulation, is activated independently of ZAP70, translocates from the cytoplasm to the nucleus and is required for interleukin-2 (IL2) promoter up-regulation. During adaptive immune responses, is required in peripheral T-lymphocytes for the production of the effector cytokines IL2 and IFNG after TCR engagement and for optimal induction of antibody responses to antigens (PubMed:20819079). In epithelial cells stimulated with lysophosphatidic acid (LPA), is activated through a PKC-dependent pathway and mediates LPA-stimulated interleukin-8 (IL8) secretion via a NF-kappa-B-dependent pathway (By similarity). During TCR-induced T-cell activation, interacts with and is activated by the tyrosine kinase LCK, which results in the activation of the NFAT transcription factors (By similarity). In the trans-Golgi network (TGN), regulates the fission of transport vesicles that are on their way to the plasma membrane and in polarized cells is involved in the transport of proteins from the TGN to the basolateral membrane (By similarity). Plays an important role in endothelial cell proliferation and migration prior to angiogenesis, partly through modulation of the expression of KDR/VEGFR2 and FGFR1, two key growth factor receptors involved in angiogenesis (By similarity). In secretory pathway, is required for the release of chromogranin-A (CHGA)-containing secretory granules from the TGN (By similarity). Downstream of PRKCA, plays important roles in angiotensin-2-induced monocyte adhesion to endothelial cells (By similarity).[UniProtKB/Swiss-Prot Function]