

Product datasheet for **MC222339**

Prkd2 (NM_178900) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Prkd2 (NM_178900) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Prkd2
Synonyms:	A1325941; PKD2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >MC222339 representing NM_178900
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCCGCGCCCCCTCCATCCCGCAGGACTCCCGGCTCTCCGGGGCCCGGTCTCCTCCGCCCCCG
 GTGGCTTGATCTCCAGTCGCCGCCACCTCTGCTGCCTCAGATCCCGGCTCCGGGTTCCGGGGTCTCCTT
 CCATATCCAGATCGGATTGACCCGAGAGTTCGTGCTGTTGCCGGCTGCCTCAGAGTTGGCTCATGTGAAG
 CAACTAGCCTGTTCTATCGTGGACCAGAAGTCCAGAGTGTGGCTTCTACGGCCTGTACGACAAGATCC
 TGCTCTTCAAACATGACCCAACATCAGCCAACCTCCTGCAGCTGGTGGCATCAGCTGCAGATATCCAGGA
 GGGTGACCTGGTGGAGGTGGTTCGTGGCCTCGGCCACCTTCGAGGATTTCCAGATCCGACCGCATGCT
 CTACTIONTGCCTGACCGCCTCCGCCTTCTGTGACCACTGCGGGGAGATGCTCTTCGGCCTCGTGC
 GCCAGGGCCTCAAGTGCATGGCTGCGGGCTGAATTACCACAAACGCTGCGCCTCAGCATCCCGAACAA
 CTGCAGTGGTGCAGAAAGCGCCGCTGTCCATCCAGTCTCTGGCCAGTGGCCATTCTGTGCGCCTTGGC
 AGCTCCGAGTCTTACCCTGCACCGCCGAAGAGCTGAGCCGTAGCACCACCGACCTCCTTCTCGCCGAC
 CACCCTCGTCGTCTCCTCCTCTTCTTCTTCTACACAGGCCGACCCATTGAGTTGGACAAGAT
 GCTGATGTCCAAGGTCAAGGTGCCACACACCTTCTTATACATAGCTACACACGGCCACCGTTTCCAG
 GCTTGCAAGAACTGCTCAAGGTCTATTCCGCCAGGGCCTGCAGTGCAAGACTGCAAGTTAACTGTC
 ACAAACGCTGTGTACCCGCGTCCCTAACGACTGCCTGGGGGAGGCGCTCATCAATGGAGACGTGCCGAT
 GGAGGAAGCCGCTGATTACAGTGAAGGTGATAAGAGCTCCATCTCAGATGAGTTGGAGGATTCTGGTGT
 ATCCCCGGCTCCCACTCAGAGAGTGTCTCCATGCCAGTGAAGGAGGAAGGCGAGGGACACAAGGCC
 AGAGCTCGTGGGATACATCCCCCTGATGCGCGTGGTACAGTCTGTGCGACACACGACCCGGAAATCCAG
 CACCACCCTGCGGGAGGGCTGGGTGGTCCATTACAGCAACAAGGACACACTGAGGAAACGGCACTACTGG
 CGTCTAGACTGTAATGCATTACCCTCTTCCAGAACAACACGACCAACAGATACTACAAGGAAATCCCGC
 TGTCTGAAATCCTTGGGTGGAACCGGCTCAGAACTTCAGCCTCGTACCCCGGGCACCAACCCACACTG
 CTTGAGATCATCAGGCCAATGTCACCTACTTTGTGGGCAACCCCTGGCGGGCCCCGGGAGGGCCA
 AGTGGACAGGGAACAGAGGCCGTTCCGGGTTGGGAGACAGCCATCCGCCAGGCACTGATGCCGTTATCC
 TCCAAGATGCGCCAGTCCCGGGGCACACCCGACAGACAAGCGTCTCTGAGTATCTCCGTGCCAA
 CAGTCAGATCCAAGAGAATGTGGATATCGCCACTGTCTACCAGATCTTCCAGATGAGGTGCTGGGCTCT
 GGGCAGTTTGGAGTGGTTTATGGAGGAAAACACAGGAAGACTGGCAGAGACGTTGCAGTAAAGGTCATTG
 ACAAACTGCGCTTCCCCACCAAGCAGGAGAGCCAGCTCAGGAATGAAGTGGCCATTCTCCAGAGTCTACG
 GCACCCCGGGATTGTGAACCTCGAGTGCATGTTTGGAGACTCCTGAGAAGGTATTCTGGTGGTATGGAGAAA
 CTGCACGGGGACATGTTGGAGATGATCCTCTCCAGTGAAGGGCCGGCTTCTGAGCGTCTCACCAGT
 TCCTTATCACGCAGATCCTGGTGGCGCTGAGACACCTGCACCTCAAGAACATCGTCCACTGTGACTTGAA
 ACCAGAGAATGTGTTACTGGCATCAGCCGATCCGTTTCTCAGGTGAAGCTCTGTGACTTTGGCTTCGCT
 CGCATCATCGGCGAGAAGTCTTCCGGCGCTCAGTGGTGGGACGCGCTGCCTACCTGGCACCCGAGGTAC
 TGCTCAACCAGGGTTACAACCGCTCGCTGGACATGTGGTCCGTGGGTGTGATCATGTACGTGAGCCTTAG
 TGGCAGTTCCCCTTCAATGAGGACGAGGACATCAATGACCAGATACAGAACGCGGCTTTATGTACCCG
 GCCAGCCCTGGAGCCACATCTCATCTGGAGCCATCGACCTCATCAACAACCTGTTGCAGGTGAAGATGC
 GCAAGCGTACAGCGTGGACAAGTCTCTCAGCCACCCATGGTTACAGGAGTACCAGACGTGGCTTACCT
 CCGAGAGCTAGAGGAAAGATGGGCGAGCGATATATCACGCACGAGAGCGACGACGCACGCTGGGATCAG
 TTTGTGGCAGAGCGCCATGGGACTCCTGCAGAAGGGGACCTGGGTGGCGCCTGTCTGCCGACGACCACG
 AGATGCAGGGGCTGGCTGAGCGCATCAGCATCCT**TGA**

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI
ACCN: NM_178900
Insert Size: 2628 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:	<ol style="list-style-type: none">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:	<u>NM_178900.4</u> , <u>NP_849231.1</u>
RefSeq Size:	3625 bp
RefSeq ORF:	2628 bp
Locus ID:	101540
UniProt ID:	<u>Q8BZ03</u>
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]

Transcript Variant: This variant (1) represents the longer transcript. Variants 1 and 2 encode the same protein. Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.