

## Product datasheet for **RN208323**

### Prkd2 (NM\_001013895) Rat Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Prkd2 (NM_001013895) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Prkd2
Synonyms:	RGD1308054
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



[View online »](#)

**Fully Sequenced ORF:** >RN208323 representing NM\_001013895  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCGCGCCCCCTCCCATCCCGCCGACTCCCTGCTCTCCGGGGCCCGGGTCTCCTCCGCCCCCG  
 GTGGCTCGGATCTCCAGTCTCTGCCACCTCTGCTGCCTCAGATCCCTGCTCCGGGATCGGGGTCTCCTT  
 CCACATCCAGATCGGATTAACACGAGAGTTTGTGCTGTTGCCGGCAGCTTCGGAGTTGGCTCATGTGAAG  
 CAACTAGCCTGTTCTATCGTGGACCAGAAGTCCAGAGTGTGGCTTCTACGGCCTGTACGACAAGATCC  
 TGCTCTTCAAACATGACCAACATCAGCCAACCTCCTGCAGCTGGTGGCATCAGCTGCAGATATCCAGGA  
 GGGCGACTTGGTGGAGGTGGTTCTGTGGCCTCAGCCACCTTCGAGGATTTCCAGATCCGTCGCGATGCT  
 CTACTIONGCACTCGTACCGCGCACCAGCTTTCTGTGACCACTGTGGGAGATGCTGTTTGGCCTTGTGC  
 GCCAGGGCCTCAAGTGCATGGTGGGGCTGAATTACCACAAACGCTGCGCCTTCAGCATCCCGAACAA  
 CTGCAGTGGCGCTCGGAAGCGCAGACTGTCATCCACGTCTCTGGCCAGTGGCCATTCTGTGCGTCTCGGC  
 AGCTCCGAGTCCCTACCTGCACCGCCGAAGAGCTGAGCCGTAGCACCACCGACCTCCTTCTCGCCGAC  
 CACCCTCGTCGTCGCTCCTCCTCTTCTCTTCTTCTACACAGGCCGACCCATTGAGCTGGACAAGAT  
 GCTGATGTCCAAGGTCAAGGTGCCACACACCTTCTTATACATAGCTACACACGGCCACCGTTTGGCAG  
 GCTTGCAAGAACTGCTCAAGGGTCTTCCGCCAGGGCTGCAGTGCAAAGACTGCAAGTTAACTGTC  
 ACAAACGCTGTGTACCCGAGTCCCTAATGACTGCCTGGGGGAGGCGCTCATCAATGGAGATGTGCCAT  
 GGAAGAAGCTGCTGATTACAGTGAGGCTGATAAGAGCTCCCTCTCAGATGAGTTGGAGACTCTGGTGTCT  
 ATCCCAGGCTCCCATGCAGAGAATGCTCTCCATGCCAGTGAGGAAGAGGAAGCGAGGGGCAAGGCC  
 AGAGCTCGTGGCTACATCCCCCTGATGCGTGGTACAGTCTGTGCGACACACGACCCCGAAATCCAG  
 CACCACCCTGCGGGAGGGCTGGGTGGTCCATTACAGCAACAAGGACACACTGAGGAAGCGGCACTACTGG  
 CGCCTAGACTGCAAAATGCATTACCTCTTCCAGAACAACACGACCAACAGATACTACAAGGAGATCCCGC  
 TGTCTGAAATCCTCGCAGTGGAGCCGGCTCAGAACTTCAGCCTCGTACCTCCGGGACCAACCCACACTG  
 CTTTGAGATCATCACCGCAATGTACCTACTTTGTGGGCGAGACACCTGGCGGGCCCCGGGAGGGCCG  
 AGCGGGCAGGGAACAGAGGCTGCCCGGGTGGGAGACAGCCATCCGCCAGGCACTGATGCCTGTTATCC  
 TCCAAGATGCACCAGTCCCCAGGCCACACACCACAGACAAGCTTCTCTGAGCATCTCTGTGCCAA  
 CAGTCAGATCCAAGAGAAGTGGACATCGCCACTGTCTACCAGATCTTCCCGATGAGGTGCTGGGCTCT  
 GGACAGTTTGGAGTGGTCTATGGAGGAAAACAGGAAGACTGGCAGAGATGTTGCAGTAAAGGTCAATTG  
 ACAAACTACGCTTCCCCACCAAGCAGGAGGCCAGCTCAGGAATGAAGTGGCCATCCTCCAGAGCCTGCG  
 GCACCCCGGGATTGTGAACCTCGAGTGCATGTTTGAGACCCTGAGAAGGTATTCTGTTGATGGAGAAA  
 CTGCATGGGGACATGTTGGAGATGATCCTCTCCAGTGAGAAGGGCCGGCTTCTGAGCGCCTCACCAAGT  
 TCCTTATCACGCAGATTCTGGTGGCACTGAGACACCTACACTTCAAGAACATCGTCCACTGTGACTTGAA  
 ACCAGAGAATGTGTTACTGGCATCAGCCGATCCGTTTCTCAGGTGAAGCTATGTGACTTCGGCTTCGCT  
 CGCATCATCGGTGAGAAGTCTTCCGGCGCTCAGTGGTGGGCACGCCCGCTACCTGGCACCTGAGGTAC  
 TGCTCAACCAGGGTTACAACCGCTCGCTGGACATGTGGTCCGTGGGTGTGATCATGTATGTGAGCCTCAG  
 TGGCAGTTCCTTCAATGAGGACGAGGACATCAATGACCAGATACAGAATGCAGCCTTATGTACCCG  
 GCCAGCCCTGGAGCCACATCTCATCTGGAGCCATCGACCTCATCAACAACCTGTTGCAGGTGAAGATGC  
 GCAAGCGCTACAGCGTGGACAAGTCTCTCAGCCACCCATGGTTACAGGAGTACCAGACGTGGCTTACCT  
 CCGAGAGCTAGAGGAAAGATGGGCGAGCGATATACCCATGAGAGCGACGACGCACGCTGGGATCAG  
 TTTGTATCAGAGCGCCATGGGACGCTGCAGAAGGGGACCTGGGTGGCGCCTGTCTGCCACAGGACCATG  
 AGATGCAGGGGCTGGCTGAGCGGATCAGCATCCT**TGA**

**ACGGCT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI  
**ACCN:** NM\_001013895

<b>Insert Size:</b>	2628 bp
<b>OTI Disclaimer:</b>	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).
<b>Components:</b>	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>	<u><a href="#">NM_001013895.1</a></u> , <u><a href="#">NP_001013917.1</a></u>
<b>RefSeq Size:</b>	3144 bp
<b>RefSeq ORF:</b>	2628 bp
<b>Locus ID:</b>	292658
<b>UniProt ID:</b>	<u><a href="#">Q5XIS9</a></u>
<b>Cytogenetics:</b>	1q21

**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. 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. 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. 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. 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. 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. 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. 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. 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. In secretory pathway, is required for the release of chromogranin-A (CHGA)-containing secretory granules from the TGN. Downstream of PRKCA, plays important roles in angiotensin-2-induced monocyte adhesion to endothelial cells.[UniProtKB/Swiss-Prot Function]