

Product datasheet for **RR208323**

Prkd2 (NM_001013895) Rat Tagged ORF Clone

Product data:

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



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ORF Nucleotide Sequence:

>RR208323 representing NM_001013895
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGC**C

ATGGCCGCGCCCCCTCCATCCCGCCGACTCCCTGCTCTCCGGGGCCCGGTCTCCTCCGCCCCCG
 GTGGCTCGGATCTCCAGTCTCTGCCACCTCTGCTGCCTCAGATCCCTGCTCCGGGATCGGGGTCTCCTT
 CCACATCCAGATCGGATTAACACGAGAGTTTGTGCTGTTGCCGGCAGCTTCGGAGTTGGCTCATGTGAAG
 CAACTAGCCTGTTCTATCGTGGACCAGAAGTTCCAGAGTGTGGCTTCTACGGCCTGTACGACAAGATCC
 TGCTCTTCAAACATGACCAACATCAGCCAACCTCCTGCAGCTGGTGGCATCAGCTGCAGATATCCAGGA
 GGGCGACTTGGTGGAGGTGGTTCTGTGGCCTCAGCCACCTTCGAGGATTTCCAGATCCGTCCGCATGCT
 CTACTIONGCACTCGTACCGCGCACCAGCTTTCTGTGACCACTGTGGGAGATGCTGTTTGGCCTTGTGC
 GCCAGGGCCTCAAGTGCATGGCTGCGGGCTGAATTACCACAAACGCTGCGCCTTCAGCATCCCGAACAA
 CTGCAGTGGCGCTCGGAAGCGCAGACTGTCATCCACGTCTCTGGCCAGTGGCCATTCTGTGCGTCTCGGC
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 GCTTGCAAGAACTGCTCAAGGTCTTCCGCCAGGGCTGCAGTGCAAAGACTGCAAGTTAACTGTC
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 GGAAGAAGCTGCTGATTACAGTGAGGCTGATAAGAGCTCCCTCTCAGATGAGTTGGAGACTCTGGTGTCT
 ATCCCAGGCTCCCATGCAGAGAATGCTCTCCATGCCAGTGAGGAAGGAAGGCGAGGGAGGCAAGGCC
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 CACCACCCTGCGGGAGGGCTGGGTGGTCCATTACAGCAACAAGGACACACTGAGGAAGCGGCACTACTGG
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 CTTTGAGATCATCACCGCAATGTACCTACTTTGTGGGCGAGACACCTGGCGGGGCCCGGGAGGGCCG
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 TCCAAGATGCACCAGTGCACCAGGCCACACACCACAGACAAGCTTCTCTGAGCATCTCTGTGCCAA
 CAGTCAGATCCAAGAGAAGTGGACATCGCCACTGTCTACCAGATCTTCCCGATGAGGTGCTGGGCTCT
 GGACAGTTTGGAGTGGTCTATGGAGGAAAACAGGAAGACTGGCAGAGATGTTGCAGTAAAGGTCATTG
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 TTTGTATCAGAGCGCCATGGGACGCTGCAGAAGGGGACCTGGGTGGCGCCTGTCTGCCACAGGACCATG
 AGATGCAGGGGCTGGCTGAGCGGATCAGCATCCTC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RR208323 representing NM_001013895
 Red=Cloning site Green=Tags(s)

MAAAPSHPAGLPCSPGPGSPPPPGGSDLQSLPPLLQIPAPGSGVSFHIQIGLTRETVLLPAASELAHVK
 QLACSIVDQKFPECGFYGLYDKILLFKHDPTSANLLQLVRSADIQEGDLVEVVLASATFEDFQIRPHA
 LTVHSYRAPAFCDHCGEMLFGLVRQGLKCDGCGLNHYHKRCASFIPNNCSGARKRRLSSTSLASGHSVRLG
 SSESLLPCTAEELSRSTTDLLPRPPSSSSSSSSSSSFTGRPIELDKMLMSKVVPHTFLIHSYTRPTVCQ
 ACKKLLKGLFRQGLQCKDCKFNCHKRCATRVNDCLGEALINGDVPMEEAADYSEADKSSLSDELEDSGV
 IPGSHAENALHASEEEEEEGGKAQSSSLGYIPLMRVVQSVRHTTRKSSSTTLREGWVVHYSNKDTRLRKRHW
 RLDCKCITLQNTTNRYYKEIPLSEILAVEPAQNFSLVPPGTNPHCFEIIITANVTYFVGETPGGAPGGP
 SGQGTEAARGWETAIRQALMPVILQDAPSAPGHTPHRQASLSISVSNSQIQENVDIATVYQIFPDEVLGS
 GQFVYVYGKHKRKTGRDVAVKVIDKLRFPKQESQLRNEVAILQSLRHPGIVNLECMFETPEKVFVYMEK
 LHGDMLEMILSSEKGRLEPERLTKFLITQILVALRHLHFKNIVHCDLKPENVLLASADFPQVKLCDFGFA
 RIIIGESFRRSVVGTPAYLAPEVLLNQYNRSLDMWSVGVIMYVSLSGTFPFNEDEDINDQIQNAAFMYP
 ASPWHSISSGAIDLINLLQVKMRKRYSDKSLSHPWLQEYQTWLTLRELEGMGERYITHESDDARWQD
 FVSRHGTPEAGDLGGACLPQDHEMQGLAERISIL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

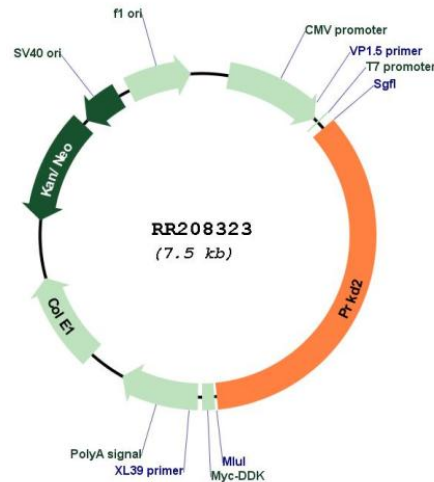
Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001013895

ORF Size: 2625 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_001013895.1](#), [NP_001013917.1](#)

RefSeq Size: 3144 bp

RefSeq ORF: 2628 bp

Locus ID: 292658

UniProt ID: [Q5XIS9](#)

Cytogenetics: 1q21

MW: 96.5 kDa

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]