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Product datasheet for RC218439

cGKI (PRKG1) (NM_001098512) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	cGKI (PRKG1) (NM_001098512) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	cGKI
Synonyms:	AAT8; cGK; cGK 1; cGK1; cGKI; cGKI-alpha; cGKI-BETA; PKG; PKG1; PRKG1B; PRKGR1B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

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ORF Nucleotide Sequence:

>RC218439 representing NM_001098512
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAGCGAGCTAGAGGAAGACTTTGCCAAGATTCTCATGCTCAAGGAGGAGAGGATCAAAGAGCTGGAGA
AGCGGCTGTCAGAGAAGGAGGAAGAAATTCAGGAGCTGAAGAGGAAACTCCACAAATGCCAGTCGGTGCT
CCCAGTGCCCTCGACCCACATCGGCCCCCGGACCACCCGGGCGCAGGGCATCTCGGCCGAGCCGCAGACG
TACAGGTCCTTCCACGACCTCCGACAGGCATTCCGGAAGTTCACCAAGTCCGAAAGGTCCAAGGATCTTA
TAAAGGAAGCTATCCTTGACAATGACTTTATGAAGAACTTGGAGCTGTCGCAGATCCAGGAGATTGTGGA
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CTTAGAACTTTAGGAAAAGGAGACTGGTTTGGAGAGAAAGCCTTGCAGGGGGAAGATGTGAGAACAGCAA
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GCTGGATGATGTTTCTAATAAAGCATATGAAGATGCAGAAGCTAAAGCAAAATATGAAGCTGAAGCGGCT
TTCTTCGCCAACCTGAAGCTGTCTGATTTCAACATCATTGATACCCTTGGAGTTGGAGGTTTCGGACGAG
TAGAACTGGTCCAGTTGAAAAGTGAAGAATCCAAAACGTTTGCAATGAAGATTCTCAAGAAACGTCACAT
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ACCTTGACACCTCCTATAATACCAAGTGTTGCATCACCCACAGACACAAGTAATTTTGACAGTTTCCCTG
AGGACAACGATGAACCACCACCTGATGACAACTCAGGATGGGATATAGACTTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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Protein Sequence:

>RC218439 representing NM_001098512
Red=Cloning site Green=Tags(s)

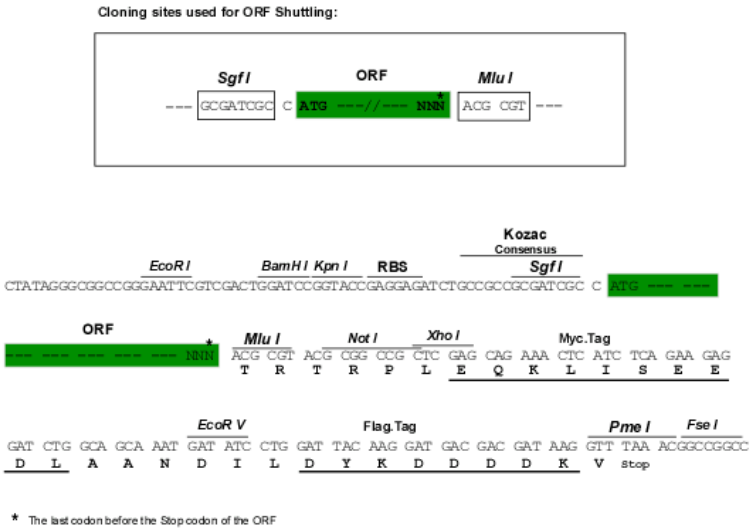
MSELEEDFAKILMLKEERIKELEKRLSEKEEEIQELKRKLHKCQSVLPVPSTHIGPRTTRAQGISAEPQT
YRSFHDLRQAFRKFTKSERSKDLIKEAILDNDFMKNLELSQIQEIVDCMYPVEYGKDSCIIKEGDVGSLV
YVMEDGKVEVTKEGVKLCTMGPGKVFGELAILYNCTRTATVKTLVNVKLWAIDRQCFQTIMMRTGLIKHT
EYMEFLKSVPTFQSLPEEILSKLADVLEETHYENGEYIIRQGARGDTFFIISKGTVNVTREDSPSEDPVF
LRTLGKGDWFGEKALQGEDVRTANVIAAEAVTCLVIDRDSFKHLIGGLDDVSNKAYEDAEAKAKYEAEAA
FFANLKLSDFNIIDTLGVGGFGRVELVQLKSEESKTFAMKILKKRHIVDTRQQEHIRSEKQIMQGAHSDF
IVRLYRTFKDSKYLYMLMEACLGGELWTILRDRGSFEDSTTRFYTACVVEAFAYLHSKGIIYRDLKPENL
ILDHRGYAKLVDFGFAKKIGFGKKTWTFCGTPEYVAPEIILNKGHDISADYWSLGILMYELLTGSPPFSG
PDPMKTYNIILRGIDMIEFPKKIAKNAANLIKKLCRDNPSERLGNLKNGVKDIQKHKWFEGFNWEGLRKG
TLTPPIIPSVASPTDTSNFDSFPEDNDEPPPDDNSGWDIDF

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mg4565_c01.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001098512

ORF Size: 2013 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).

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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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_001098512.3
RefSeq Size:	3824 bp
RefSeq ORF:	2016 bp
Locus ID:	5592
UniProt ID:	Q13976
Cytogenetics:	10q11.23-q21.1
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Gap junction, Long-term depression, Olfactory transduction, Vascular smooth muscle contraction
MW:	76.2 kDa
Gene Summary:	Mammals have three different isoforms of cyclic GMP-dependent protein kinase (Ialpha, Ibeta, and II). These PRKG isoforms act as key mediators of the nitric oxide/cGMP signaling pathway and are important components of many signal transduction processes in diverse cell types. This PRKG1 gene on human chromosome 10 encodes the soluble Ialpha and Ibeta isoforms of PRKG by alternative transcript splicing. A separate gene on human chromosome 4, PRKG2, encodes the membrane-bound PRKG isoform II. The PRKG1 proteins play a central role in regulating cardiovascular and neuronal functions in addition to relaxing smooth muscle tone, preventing platelet aggregation, and modulating cell growth. This gene is most strongly expressed in all types of smooth muscle, platelets, cerebellar Purkinje cells, hippocampal neurons, and the lateral amygdala. Isoforms Ialpha and Ibeta have identical cGMP-binding and catalytic domains but differ in their leucine/isoleucine zipper and autoinhibitory sequences and therefore differ in their dimerization substrates and kinase enzyme activity. [provided by RefSeq, Sep 2011]

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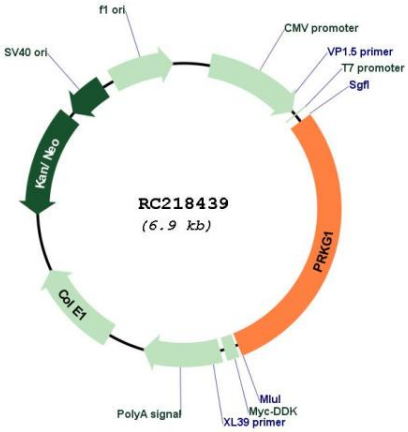
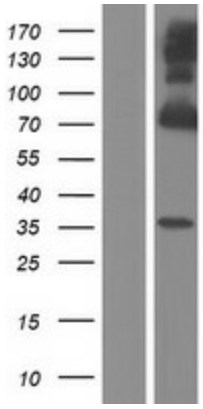
Product images:



Circular map for RC218439



Western blot validation of overexpression lysate (Cat# [LY420611]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC218439 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).

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