

## Product datasheet for **RG218439**

### **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:	TurboGFP
Symbol:	cGKI
Synonyms:	AAT8; cGK; cGK 1; cGK1; cGKI; cGKI-alpha; cGKI-BETA; PKG; PKG1; PRKG1B; PRKGR1B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide  
Sequence:

>RG218439 representing NM\_001098512  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCCGCGATCGCC

ATGAGCGAGCTAGAGGAAGACTTTGCCAAGATTCTCATGCTCAAGGAGGAGAGGATCAAAGAGCTGGAGA  
 AGCGGCTGT CAGAGAAGGAGGAAGAAATTCAGGAGCTGAAGAGGAACTCCACAAATGCCAGTCGGTGCT  
 CCCAGTGCCCTCGACCCACATCGGCCCCCGGACCACCCGGGCGCAGGGCATCTCGGCCGAGCCGACAGC  
 TACAGGTCCTTCCACGACCTCCGACAGGCATTCCGGAAGTTCACCAAGTCCGAAAGGTCCAAGGATCTTA  
 TAAAGGAAGCTATCCTTGACAATGACTTTATGAAGAACTGGAGCTGTGCAGATCCAGGAGATTGTGGA  
 TTGTATGTACCCGGTGGAGTATGGCAAGGACAGTTGCATCATCAAAGAAGGAGACGTGGGGTCACTGGT  
 TATGTCATGGAAGATGGTAAGGTTGAAGTTACAAAAGAAGGTGTGAAGTTGTGTACCATGGTCCAGGAA  
 AAGTGTGGGGAATTGGCTATTCTTTACAACGTACCCGGACAGCGACCGTCAAGACTCTGTAAATGT  
 AAAACTCTGGGCCATTGATCGACAATGTTTTCAAACAATAATGATGAGGACAGGACTCATCAAGCATAACC  
 GAGTATATGGAATTTTTAAAAAGCGTTCCAACATTCCAGAGCCTTCTGAAGAGATCCTCAGCAAGCTTG  
 CTGATGTCCTTGAAGAGACCCACTATGAAAATGGAGAATATATTATCAGGCAAGGTGCAAGAGGGGACAC  
 CTTCTTTATCATCAGCAAAGGAACGGTAAATGTCACTCGTGAAGACTCACCGAGTGAAGACCCAGTCTTT  
 CTTAGAACTTTAGGAAAAGGAGACTGGTTTGGAGAGAAAGCCTTGACAGGGGGAAGATGTGAGAACAGCAA  
 ACGTAATTGCTGCAGAAGCTGTAACTGCCTTGTGATTGACAGAGACTCTTTAAACATTTGATTGGAGG  
 GCTGGATGATGTTCTAATAAAGCATATGAAGATGCAGAAGCTAAAGCAAATATGAAGCTGAAGCGGCT  
 TTCTTCGCCAACCTGAAGCTGTCTGATTTCAACATCATTGATACCCTTGGAGTTGGAGGTTTCGGACGAG  
 TAGAACTGGTCCAGTTGAAAAGTGAAGAATCCAAAACGTTTGAATGAAGATTCTCAAGAAACGTCACAT  
 TGTGGACACAAGACAGCAGGAGCACATCCGCTCAGAGAAGCAGATCATGCAGGGGGCTCATTCCGATTTT  
 ATAGTGAGACTGTACAGAACATTTAAGGACAGCAAATATTTGTATATGTTGATGGAAGCTTGTCTAGGTG  
 GAGAGCTCTGGACCATTCTCAGGGATAGAGGTTTCGTTTGAAGATTCTACAACCAGATTTTACACAGCATG  
 TGTGGTAGAAGCTTTTGCCTATCTGCATTCCAAAGGAATCATTTACAGGGACCTCAAGCCAGAAAATCTC  
 ATCCTAGATCACCGAGTTATGCCAACTGGTTGATTTTGGCTTTGCAAAGAAAATAGGATTTGGAAAGA  
 AAACATGGACTTTTTGTGGGACTCCAGAGTATGTAGCCCCAGAGATCATCCTGAACAAAGGCCATGACAT  
 TTCAGCCGACTACTGGTCACTGGGAATCCTAATGTATGAACTCCTGACTGGCAGCCACCTTTCAGGC  
 CCAGATCCTATGAAAACCTATAACATCATATTGAGGGGATTGACATGATAGAATTTCCAAGAAGATTG  
 CCAAAAATGCTGCTAATTTAATTAATAAAAACTATGCAGGGACAATCCATCAGAAAAGATTAGGGAATTTGAA  
 AATGGAGTAAAAGACATTCAAAGCACAATGGTTTGAAGGCTTAACTGGGAAGGCTTAAAGAAAAGGT  
 ACCTTGACACCTCCTATAATACCAAGTGTTCATCACCCACAGACACAAGTAATTTTACAGTTCCTCT  
 AGGACAACGATGAACCACCACCTGATGACAACCTCAGGATGGGATATAGACTTC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >RG218439 representing NM\_001098512  
Red=Cloning site Green=Tags(s)

MSELEEDFAKILMLKEERIKELEKRLSEKEEEIQELKRKLHKCQSVLPVPSTHIGPRTRRAQGISAEPQT  
 YRSFHDLRQAFRKFTKSERSKDLIKEAILDNDFMKNLELSQIQEIVDCMYPVEYKGDSCIIKEGDVGLV  
 YVMEDGKVEVTKEGVKLCMTGPGKVFGLAILYNCTRTATVKTLVNVKLWAIDRQCFQTIMMRTGLIKHT  
 EYMEFLKSVPTFQSLPEEILSKLADVLEETHYENGEYIIRQGARGDTFFIISKGTVNVTTREDSPEDEPVF  
 LRTLKGDWFGKALQGEDVRTANVIAAEAVTCLVIDRDSFKHLIGGLDDVSNKAYEDAIAKAKYEAEEA  
 FFANLKLSDFNIDTLGVGGFGRVELVQLKSEESKTFAMKILKKRHIIVDRQQEHIRSEKQIMQGAHSDF  
 IVRLYRTFKDSKYLMLMEACLGELWTLRDRGSFEDSTTRFYTACVVEAFAYLHSGKGIYRDLKPENL  
 ILDHRGYAKLVDFGFAKIGFGKKTWTFCTGPEYVAPEIILNKGHDIADYWSLILMYELLTGSPPFSG  
 PDPMKTYNIIILRGIDMIEFPKIAKNAANLIKLCRDNPSERLGNLKNVVKDIQKHKWFEGFNWEGLRKG  
 TLTPIIPSVASPTDTSNFDSFPEDNDEPPPDDNSGWDIDF

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001098512

**ORF Size:** 2013 bp

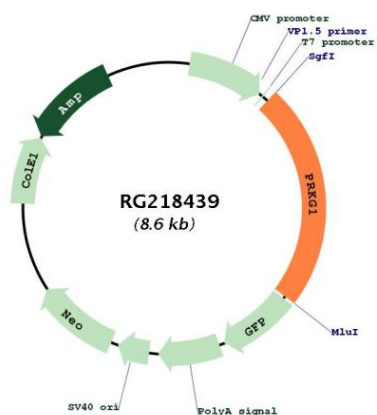
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone 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).

<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>	<a href="#">NM_001098512.3</a>
<b>RefSeq Size:</b>	6710 bp
<b>RefSeq ORF:</b>	2016 bp
<b>Locus ID:</b>	5592
<b>UniProt ID:</b>	<a href="#">Q13976</a>
<b>Cytogenetics:</b>	10q11.23-q21.1
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	Gap junction, Long-term depression, Olfactory transduction, Vascular smooth muscle contraction
<b>Gene Summary:</b>	<p>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]</p>

Product images:



Circular map for RG218439