

## Product datasheet for **RG220986**

### **cGKI (PRKG1) (NM\_006258) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	cGKI (PRKG1) (NM_006258) 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)



[View online »](#)

ORF Nucleotide  
Sequence:

>RG220986 representing NM\_006258  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGGCACCTTGCGGATTACAGTACGCGCTCCAGGAGAAGATCGAGGAGCTGAGGCAGCGGGATGCTC  
 TCATCGACGAGCTGGAGCTGGAGTTGGATCAGAAGGACGAACTGATCCAGAAGCTGCAGAACGAGCTGGA  
 CAAGTACCGCTCGGTGATCCGACCAGCCACCCAGCAGGCGCAGAAGCAGAGCGCAGCACCTTGCAGGGC  
 GAGCCGCGCACCAAGCGGCAGGCGATCTCCGCCGAGCCACCGCCTTCGACATCCAGGATCTCAGCCATG  
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 TTCCAACATTCCAGAGCCTTCTGAAGAGATCCTCAGCAAGCTTGTCTGATGTCCTTGAAGAGACCCACTA  
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 GGTTTGGAGAGAAAGCCTTGCAGGGGGAAGATGTGAGAACAGCAAACGTAATTGCTGCAGAAGCTGTAAC  
 CTGCCCTTGATTGACAGAGACTCTTTAAACATTTGATTGGAGGGCTGGATGATGTTTCTAATAAAGCA  
 TATGAAGATGCAGAAGCTAAAGCAAAATATGAAGCTGAAGCGGCTTCTTCGCCAACCTGAAGCTGTCTG  
 ATTTCAACATCATTGATACCCCTTGGAGTTGGAGTTTCGACGAGTGAAGTGGTCCAGTTGAAAAGTGA  
 AGAATCCAAAACGTTTGCAATGAAGATTCTCAAGAAACGTCACATTGTGGACACAAGACAGCAGGAGCAC  
 ATCCGCTCAGAGAAGCAGATCATGCAGGGGCTCATTCCGATTCATAGTGAGACTGTACAGAACATTTA  
 AGGACAGCAAATATTTGTATATGTTGATGGAAGCTTGTCTAGGTGGAGAGCTCTGGACCATTCTCAGGGA  
 TAGAGGTTGTTTGAAGATTCTACAACCAGATTTTACACAGCATGTGTGGTAGAAGCTTTTGCCTATCTG  
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 TCATATTGAGGGGATTGACATGATAGAATTTCAAAGAAGATTGCCAAAATGCTGCTAATTTAATTA  
 AAAACTATGCAGGGACAATCCATCAGAAAAGATTAGGGAATTTGAAAATGGAGTAAAAGACATTCAAAAG  
 CACAAATGGTTTGGGGCTTAACTGGGAAGGCTTAAGAAAAGGTACCTTGACACCTCTATAATACCAA  
 GTGTTGCATCACCCACAGACACAAGTAATTTGACAGTTCCCTGAGGACAACGATGAACCCACCTGA  
 TGACAACCTCAGGATGGGATATAGACTTC

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >RG220986 representing NM\_006258  
 Red=Cloning site Green=Tags(s)

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MGTLRDLQYALQEKIEELRQRDALIDELELELDQKDELIQKLQNELDKYRSVIRPATQQAQKQSASTLQG
EPRTKRQAISAEPFAFDIQDLSHVTLPFYPKSPQSKDLIKEAILDNDFMKNLELSQIQEIVDCMYPVEYG
KDSCIIKEGDVGS�VYAMEDGKVEVTKEGVKLC TMGPGKVF GELAILYNCTRTATVKT LVNVKLWAIDRQ
CFQTIMMRTGLIKHTEYMEFLKSVPTFQSLPEEILSKLADVLEEETHYENGEYIIRQGARGDTFFIISKGT
VNVTRDPSSEDPVFLRTLKGKDFWGEKALQGEDVRTANVIAAEAVTCLVIDRDSFKHLIGGLDDVSNKA
YEDAEAKAKYEAEEAFFANLKLSDFNIDTLGVGGFGRVELVQLKSEESKTFAMKILKKRHIVDTRQEH
IRSEKQIMQGAHSDFIVRLYRTFKDSKYLMLMEACLGGELWTILRDRGSFEDSTTRFYTACVVEAFAYL
HSKGIIYRDLKPENLILDHRGYAKLVDFGAKKIGFGKKTWTFCGTPEYVAPEIILNKGHDSADYWSLG
ILMYELLTGSPFSGPDPMKTYNIIILRGIDMIEFPKKIAKNAANLIKCLRDNPSERLGNLKNGVKDIQK
HKWFEGFNWEGLRKGTLPPIIPSVASPTDTSNFDSFPEDNDEPPDDNSGWDIDF
  
```

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_006258

**ORF Size:** 2058 bp

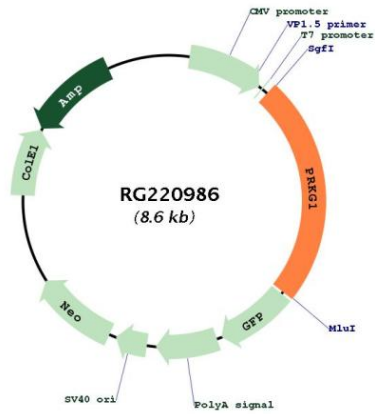
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone 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_006258.1</a> , <a href="#">NP_006249.1</a>
<b>RefSeq Size:</b>	3740 bp
<b>RefSeq ORF:</b>	2061 bp
<b>Locus ID:</b>	5592
<b>UniProt ID:</b>	<a href="#">Q13976</a>
<b>Cytogenetics:</b>	10q11.23-q21.1
<b>Domains:</b>	cNMP, pkinase, S_TK_X, TyrKc, S_TKc
<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 RG220986