

## Product datasheet for **RC220986**

### **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:	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:

>RC220986 representing NM\_006258  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGCATCGCC**

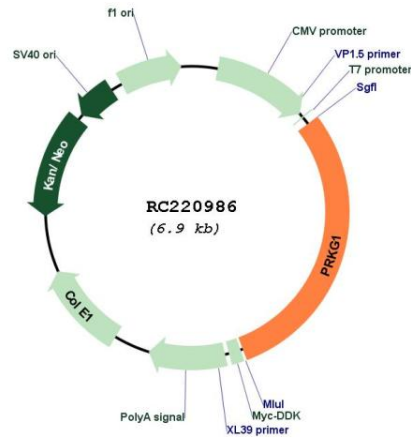
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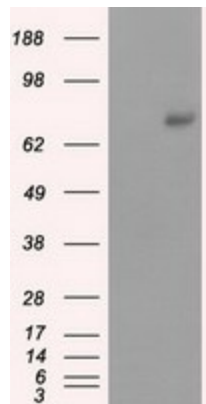


<b>Components:</b>	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</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>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NM_006258.4</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>MW:</b>	77.6 kDa
<b>Gene Summary:</b>	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]

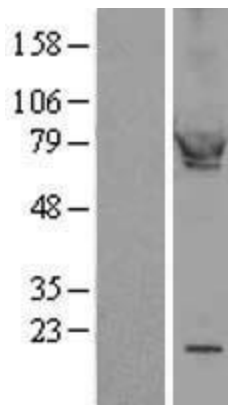
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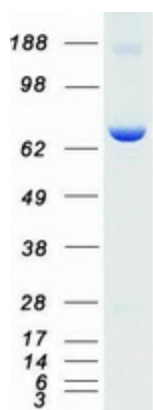
Circular map for RC220986



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY PRKG1 (Cat# RC220986, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-PRKG1 (Cat# [TA501151]). Positive lysates [LY416766] (100ug) and [LC416766] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY416766]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC220986 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PRKG1 protein (Cat# [TP320986]). The protein was produced from HEK293T cells transfected with PRKG1 cDNA clone (Cat# RC220986) using MegaTran 2.0 (Cat# [TT210002]).