

## Product datasheet for **RC224953**

### PRKAG2 (NM\_016203) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PRKAG2 (NM_016203) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PRKAG2
Synonyms:	AAKG; AAKG2; CMH6; H91620p; WPWS
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC224953 representing NM\_016203  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGGAAGCGCGTTATGGACACCAAGAAGAAAAAGATGTTTCCAGCCCAGCGGGAGCGCGCAAGA  
 AAAATGCCAGCCAGAAGAGGCGTTCGCTGCGCGTGCACATTCGGACCTGAGCTCCTTCGCCATGCCGCT  
 CCTGGACGGAGACCTGGAGGTTCCGGAAAGCATTCTCTCGAAAGGTGGACAGCCCTTCGGCCCGGGC  
 AGCCCTCCAAAGGGTCTTCTCCAGAGGCCCCAGCCCGCCCTCCAGCCCATGTCTGCACCTGTGA  
 GGCCCAAGACCAGCCCGGCTCTCCAAAACCGTGTCCCGTCTCTACCAGGAGTCCCGCCACGCTC  
 CCCTCGACGCATGAGCTTCACTGGGATCTTCGCTCCTCTCCAAAGAGTCTTCCCAACTCCAACCT  
 GCTACCTCGCCCGGGGCATCAGTTTTCTCCCGCTCCAGAAAACCTCCGGCTCTCTCTCTCCGT  
 CAACACCCACCAAGTGACCAAGCAGCACAGTTCCTGGAATCCTATAAGCAGGAGCTGAACGGT  
 AGAGAATCGCATCTATGCCTCGTCTTCCCGCCGACACAGGGCAGAGGTTCTGCCGTCTCTCCAG  
 AGCCCGACAGGCTCCACTGGCATCACCGACACACTATGCTCCCTCAAAGCCGCGCGCTGGCGCGG  
 CCCTGGGACCCGCGGAAGCCGGCATGCTGGAGAAGCTGGAGTTCGAGGACGAAGTAGAAGACTCAGAAA  
 TGGTGTTTACATGCGATTCATGAGGTACACAAGTGTATGACATCGTTCCAACAGTTCAAAGCTTGT  
 GTCTTTGATACTACATTACAAGTAAAAAGGCCTTCTTTGCTTTGGTAGCCAACGGTGTCCGAGCAGCGC  
 CACTGTGGGAGAGTAAAAACAAAGTTTTGTAGGAATGCTAACAAATTACAGATTCATAAATACTACA  
 TAGATACTATAAATCACCTATGGTACAGATTTATGAATTAGAGGAACATAAAATTGAAACATGGAGGGAG  
 CTTTATTTACAAGAAACATTTAAGCCTTTAGTGAATATATCTCCAGATGCAAGCCTCTTCGATGCTGAT  
 ACTCCTTGATCAAAAATAAAATCCACAGATTGCCCGTTATTGACCCTATCAGTGGGAATGCACCTTATAT  
 ACTTACCACAAAAGAATCCTCAAGTTCCTCCAGCTTTTATGTCTGATATGCCAAAGCCTGCCTTCATG  
 AAGCAGAACCTGGATGAGCTTGAATAGGAACGTACCACAACATTGCCTTCATACATCCAGACACTCCCA  
 TCATCAAAGCCTTGAACATATTTGTGGAAGACGAATATCAGCTCGCCTGTGTGGATGAGTCAGGAAA  
 AGTTGTAGATATTTATCCAAATTTGATGTAATTAATCTTGCTGCTGAGAAAACATAAATAACCTAGAT  
 ATCACGGTGACCCAGGCCCTTCAGCACCGTTCACAGTATTTGAAGGTGTGTGAAGTGAATAAGCTGG  
 AAATACTGGAGACCATCGTGGACAGAATAGTAAGAGCTGAGGTCCATCGGCTGGTGGTAAATGAAGC  
 AGATAGTATTGTGGTATATTTCCCTGTCCGACATTCTGCAAGCCTGATCCTCACACCAGCAGGTGCC  
 AAACAAAAGGAGACAGAAACGGAG

**ACGCGT**ACGCGGCGGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC224953 representing NM\_016203  
 Red=Cloning site Green=Tags(s)

MGSVMDTKKKKDVSSPGSGGKKNASQKRRSLRVHIPDLSSFAMPLLDGDLESGKHSSSRKVDSPFGPG  
 SPSKGFSSRGPQPRPSSPMSAPVRPKTSPGSPKTVFPFSYQESPPRSPRMSFSGIFRSSSKESPNSNP  
 ATSPGGIRFFSRKTSGLSSSPSTPTQVTKQHTFPLESYKHEPERLENRIYASSPPDTGQRFCPSSFQ  
 SPTRPPLASPTHYAPSKAAALAAALGPAEAGMLEKLEFEDEVEDESESGVYMRMRSHKCYDIVPTSSKLV  
 VFDTTLQVKKAFALVANGVRAAPLWESKKQSFVGMILTIDFINILHRYKSPMVQIYELEEHIETWRE  
 LYLQETFKPLVNI SPDASLFDVAVSLIKNKHRLPVIDPISGNALYILTHKRILKFLQLFMSDMPKPAFM  
 KQNLDELGIGTYHNI AF IHPDTP I I KALNIFVERRI SALPVVDESGKVVDIYSKFDVINLAAEKTNNLD  
 ITVTQALQHRSQYFEGVVKCNKLEILETIVDRIVRAEVHRLVVVNEADSI VGIISLSDILQALILTPAGA  
 KQKETETE

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6160\\_b06.zip](https://cdn.origene.com/chromatograms/mk6160_b06.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_016203

**ORF Size:** 1704 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\\_016203.4](#)

**RefSeq Size:** 2062 bp

**RefSeq ORF:** 1710 bp

**Locus ID:** 51422

**UniProt ID:** [Q9UGJ0](#)

**Cytogenetics:** 7q36.1

**Domains:** CBS

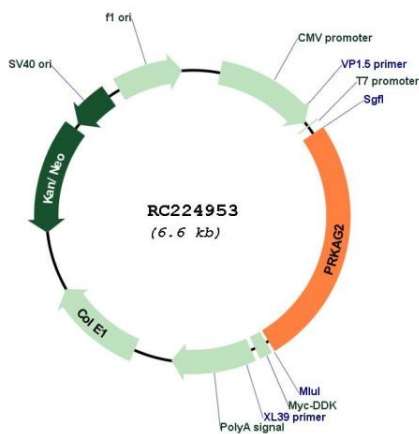
**Protein Families:** Druggable Genome

**Protein Pathways:** Adipocytokine signaling pathway, Hypertrophic cardiomyopathy (HCM), Insulin signaling pathway

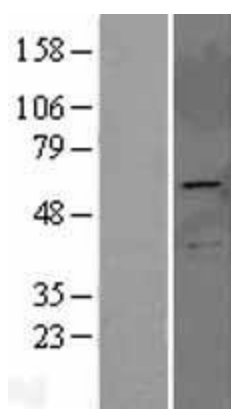
**MW:** 62.9 kDa

**Gene Summary:** AMP-activated protein kinase (AMPK) is a heterotrimeric protein composed of a catalytic alpha subunit, a noncatalytic beta subunit, and a noncatalytic regulatory gamma subunit. Various forms of each of these subunits exist, encoded by different genes. AMPK is an important energy-sensing enzyme that monitors cellular energy status and functions by inactivating key enzymes involved in regulating de novo biosynthesis of fatty acid and cholesterol. This gene is a member of the AMPK gamma subunit family. Mutations in this gene have been associated with Wolff-Parkinson-White syndrome, familial hypertrophic cardiomyopathy, and glycogen storage disease of the heart. Alternate transcriptional splice variants, encoding different isoforms, have been characterized. [provided by RefSeq, Jan 2015]

**Product images:**



Circular map for RC224953



Western blot validation of overexpression lysate (Cat# [LY402518]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC224953 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).