

## Product datasheet for **RC216876**

### PRKAG2 (NM\_001040633) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PRKAG2 (NM_001040633) 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:**

>RC216876 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGCCGCTCTGGACGGAGACCTGGAGGGTTCCGAAAGCATTCTCTCGAAAGGTGGACAGCCCTTCG  
 GCCCGGGCAGCCCTCCAAGGGTCTTCTCCAGAGGCCCCAGCCCGGCCCTCCAGCCCATGTCTGC  
 ACCTGTGAGGCCAAGACCAGCCCGGCTCTCCAAAACCGTGTCCCGTTCTCCTACCAGGAGTCCCCG  
 CCACGCTCCCCTCGACGCATGAGCTTCACTGGGATCTTCCGCTCCTCCTCAAAGAGTCTTCCCCAACT  
 CCAACCTGTACCTCGCCCGGGGCACTAGGTTTTTCTCCGCTCCAGAAAACTCCGGCCTCTCCTC  
 CTCTCCGTC AACACCCACCCAAGTGACCAAGCAGCACAGTTCCTGGAATCTATAAGCAGGAGCT  
 GAACGGTTAGAGAATCGCATCTATGCCTCGTCTTCCCCCAGACACAGGGCAGAGGTTCTGCCGTCTT  
 CCTTCCAGAGCCCGACCAGGCTCCACTGGCATACCGACACACTATGCTCCCTCAAAGCCGGCGCT  
 GCGCGCGCCCTGGGACCGGGAAGCCGGCATGCTGGAGAAGCTGGAGTTCGAGGACGAAGCAGTAGAA  
 GACTCAGAAAAGTGGTGTTCATGCGATTATGAGGTCACACAAGTGTATGACATCGTTCCAACAGTT  
 CAAAGCTTGTGTCTTTGATACTACATTACAAGTTAAAAAGCCTTCTTTGCTTTGGTAGCCAACGGTGT  
 CAGAGCAGCGCCACTGTGGGAGAGTAAAAACAAGTTTTGTAGGAATGCTAACAAATTACAGATTTATA  
 AATACTACATAGATACTATAAATCACCTATGGTACAGATTTATGAATTAGAGGAACATAAAATTGAAA  
 CATGGAGGGAGCTTTATTTACAAGAAACATTTAAGCCTTAGTGAATATATCTCCAGATGCAAGCCTCTT  
 CGATGCTGATACTCCTTGATCAAAAATAAAATCCACAGATTGCCGTTATTGACCCTATCAGTGGGAAT  
 GCACCTTATATACTTACCACAAAAGAATCCTCAAGTTCCTCCAGCTTTTATGTCTGATATGCCAAGC  
 CTGCCTTCATGAAGCAGAACCTGGATGAGCTTGAATAGGAACGTACCACAACATTGCCTCATACTCC  
 AGACACTCCCATCATCAAAGCCTTGAACATATTTGTGAAAGACGAATATCAGCTCTGCCTGTTGTGGAT  
 GAGTCAGGAAAAGTTGTAGATATTTATCCAAATTTGATGTAATTAATCTTGCTGCTGAGAAAACATA  
 ATAACCTAGATATCACGGTGACCCAGGCCCTTCAGCACCGTTCACAGTATTTGAAGGTGTGTGAAGTG  
 CAATAAGCTGAAACTGGAGACCATCGTGGACAGAATAGTAAGAGCTGAGGTCCATCGCTGTTGGTG  
 GTAATGAAGCAGATAGTATTGTGGTATTATTTCCCTGTGCGACATTCTGCAAGCCTGATCCTCACAC  
 CAGCAGGTGCCAAAACAAAAGGAGACAGAAACGGAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC216876 protein sequence  
 Red=Cloning site Green=Tags(s)

MPLLDGDLEGSCHKSSRKVDSPFGPGSPSKGFFSRGPQPRPSSPMSAPVVRPKTSPGSPKTVFPFSYQESP  
 PRSPRRMSFSGIFRSSKESSPNSNPATSPGGIRFFSRSRKTSGLSSSPSTPTQVTKQHTFPLESYKHEP  
 ERLENRIYASSPDTGQRFQSPSSPSPTRPPLASPTHYAPSKAAALAAALGPAEAGMLEKLEFEDEAVE  
 DSESGVYMRFMRSKCYDIVPTSSKLVVFDLTLQVKKAFFALVANGVRAAPLWESKKQSFVGLMTITDFI  
 NILHRYKSPMVQIYELEEHKIEWRELVLQETFKPLVNI SPDASLFDVYSLIKNKIHLRPLVIDPISGN  
 ALYILTHKRILKFLQLFMSDMPKPAFMKQNLDELIGTYHNI AF IHPDTP I I KALNIFVERRISALPVVD  
 ESGKVVDIYSKFDVINLAAEKTYNNLDITVTQALQHR SQYFEGVVKCNKLEIETIVDRIVRAEVHRLVV  
 VNEADSI VGIISLSDILQALILTPAGAKQKETETE

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6677\\_h05.zip](https://cdn.origene.com/chromatograms/mk6677_h05.zip)

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_001040633

**ORF Size:** 1575 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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.

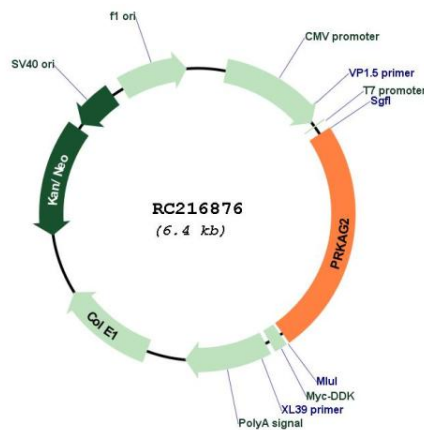
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- 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.

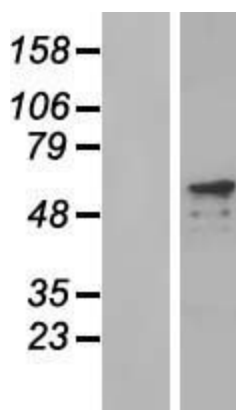
**RefSeq:** [NM\\_001040633.1](#), [NP\\_001035723.1](#)

RefSeq Size:	3154 bp
RefSeq ORF:	1578 bp
Locus ID:	51422
UniProt ID:	<a href="#">Q9UGJ0</a>
Cytogenetics:	7q36.1
Protein Families:	Druggable Genome
Protein Pathways:	Adipocytokine signaling pathway, Hypertrophic cardiomyopathy (HCM), Insulin signaling pathway
MW:	58.4 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 RC216876



Western blot validation of overexpression lysate (Cat# [LY421790]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC216876 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).