

Product datasheet for **RC210226**

AMPK alpha 2 (PRKAA2) (NM_006252) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Tag:	Myc-DDK
Symbol:	AMPK alpha 2
Synonyms:	AMPK; AMPK2; AMPKa2; PRKAA
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RC210226 representing NM_006252
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGC**C

ATGGCTGAGAAGCAGAAGCACGACGGGCGGGTGAAGATCGGACACTACGTGCTGGCGACACGCTGGGCG
 TCGGCACCTTCGGCAAAGTGAAGATTGGAGAACATCAATTAACAGGCCATAAAGTGGCAGTTAAATCTT
 AAATAGACAGAAGATTTCGAGTTTAGATGTTGTTGAAAAATAAAACGAGAAATCAAAATCTAAACTC
 TTTCGTCATCCTCATATTATCAACTATACCAGGTGATCAGCACTCCAACAGATTTTTTATGGTAATGG
 AATATGTGTCTGGAGGTGAATTATTTGACTACATCTGTAAGCATGGACGGGTTGAAGAGATGGAAGCCAG
 GCGGCTCTTTCAGCAGATTCTGTCTGCTGTGGATTACTGTCATAGGCATATGGTTGTTTCATCGAGACCTG
 AAACCAGAGAATGTCCTGTTGGATGCACACATGAATGCCAAGATAGCCGATTTTCGGATTATCTAATATGA
 TGTCAGATGGTGAATTTCTGAGAACTAGTTGCGGATCTCCAAATTATGCAGCACCTGAAGTCATCTCAGG
 CAGATTGTATGCAGGTCCTGAAGTTGATATCTGGAGCTGTGGTGTATCTTGTATGCTCTCTTTGTGGC
 ACCCTCCCATTTGATGATGAGCATGTACCTACGTTATTTAAGAAGATCCGAGGGGGTGTCTTTATATCC
 CAGAATATCTCAATCGTTCTGTGCCCACTCTCCTGATGCATATGCTGCAGGTTGACCCACTGAAACGAGC
 AACTATCAAAGACATAAGAGAGCATGAATGGTTTAAACAAGATTTGCCAGTTACTTATTTCTGAAGAC
 CCTTCCTATGATGCTAACGTCATTGATGATGAGGCTGTGAAAGAAGTGTGTGAAAAATTTGAATGTACAG
 AATCAGAAGTAATGAACAGTTTATATAGTGGTGACCTCAAGACCAGCTTGCACTGGCTTATCATCTTAT
 CATTGACAATCGGAGAATAATGAACCAAGCCAGTGAGTTCTACCTCGCTCTAGTCTCCATCTGGTTCT
 TTTATGGATGATAGTCCATGCATATCCCCCAGGCTGAAACCTCATCCAGAAAGGATGCCACCTCTTA
 TAGCAGACAGCCCCAAAGCAAGATGTCCATTGGATGCACTGAATACGACTAAGCCCAAATCTTTAGCTGT
 GAAAAAAGCCCAAGTGGCATCTTGAATCCGAAGTCAGAGCAAACCGTATGACATTATGGCTGAAGTTTAC
 CGAGCTATGAAGCAGCTGGATTTTGAATGGAAGGTAGTGAATGCATACCATCTTCGTGTAAGAAGAAAAA
 ATCCAGTGACTGGCAATTACGTGAAATGAGCTTACAACCTTACCTGGTTGATAACAGGAGCTATCTTTT
 GGACTTTAAAGCATTGATGATGAAGTAGTGGAGCAGAGATCTGGTTCTCAACACCTCAGCGTTCTCTGT
 TCTGCTGCTGGCTTACACAGACCAAGATCAAGTTTGTATCCACAACGCAGAGAGCCATTCACTTTCTG
 GCTCTCTCACTGGCTCTTGACCGGAAGCACATTGTCTTCAGTTTCACCTCGCTGGGCAGTCACACCAT
 GGATTTTTTTGAATGTGTGCCAGTCTGATTACTTTAGCCCGT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC210226 representing NM_006252
 Red=Cloning site Green=Tags(s)

MAEKQKHDGRVKIGHYVLGDTLGVGTFGKVKIGEHQLTGHKVAVKILNRQKIRSLDVVGKIKREIQNLKL
 FRHPHIKLYQVISTPTDFFMVMEYVSGGELFDYICKHGRVEEMEARRLFQQILSAVDYCHRHMVVRDL
 KPENVLLDAHNAKIADFGLSNMMSDGEFLRTSCGSPNYAAPEVISGRLYAGPEVDIWSGVILYALLCG
 TLPFDDEHVPTLFKKIRGGVFYIPEYLNRSVATLLMHMLQVDPLKRATIKDIREHEWFKQDLPYLFPE
 PSYDANVIDDEAVKEVCEKFECTESEVMNSLYSGDPQDQLAVAYHLIIDNRRIMNQASEFYASSPPSGS
 FMDDSAMHIPPGLKPHPERMPPLIADSPKARCPLDALNTTKPKSLAVKKAKWHLGIRSQSKPYDIMA
 EVYRAMKQLDFEWKVVNAYHLRVRKNPVTGNVYKMSLQLYLDNRSYLLDFKSIDDEVVEQRSGSSTPQRSC
 SAAGLHRPRSSFDTTAEHSLSGSLTGSLTGSTLSSVSPRLGSHTMDFEMCASLITTLAR

TRTRPLE**QKL**ISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mg3128_b01.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



ACCN: NM_006252

ORF Size: 1656 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 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.

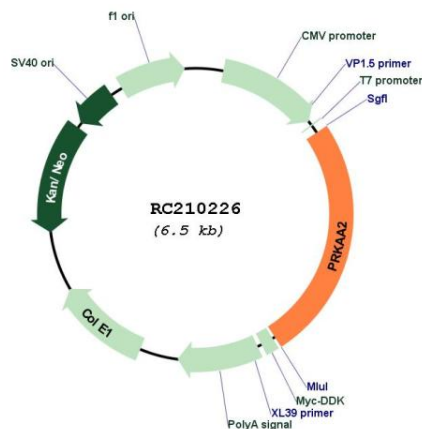
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

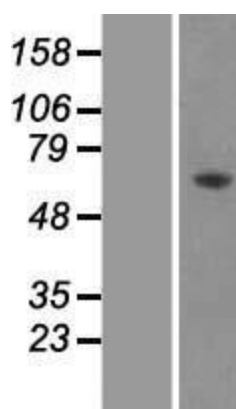
1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_006252.4
RefSeq Size:	2435 bp
RefSeq ORF:	1659 bp
Locus ID:	5563
UniProt ID:	P54646
Cytogenetics:	1p32.2
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Adipocytokine signaling pathway, Hypertrophic cardiomyopathy (HCM), Insulin signaling pathway, mTOR signaling pathway, Regulation of autophagy
MW:	62.1 kDa
Gene Summary:	The protein encoded by this gene is a catalytic subunit of the AMP-activated protein kinase (AMPK). AMPK is a heterotrimer consisting of an alpha catalytic subunit, and non-catalytic beta and gamma subunits. AMPK is an important energy-sensing enzyme that monitors cellular energy status. In response to cellular metabolic stresses, AMPK is activated, and thus phosphorylates and inactivates acetyl-CoA carboxylase (ACC) and beta-hydroxy beta-methylglutaryl-CoA reductase (HMGCR), key enzymes involved in regulating de novo biosynthesis of fatty acid and cholesterol. Studies of the mouse counterpart suggest that this catalytic subunit may control whole-body insulin sensitivity and is necessary for maintaining myocardial energy homeostasis during ischemia. [provided by RefSeq, Jul 2008]

Product images:



Circular map for RC210226



Western blot validation of overexpression lysate (Cat# [LY416772]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC210226 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).