

Product datasheet for **RG210226**

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

Product data:

| | |
|---------------------------|--|
| Product Type: | Expression Plasmids |
| Product Name: | AMPK alpha 2 (PRKAA2) (NM_006252) Human Tagged ORF Clone |
| Tag: | TurboGFP |
| Symbol: | AMPK alpha 2 |
| Synonyms: | AMPK; AMPK2; AMPKa2; PRKAA |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-AC-GFP (PS100010) |
| E. coli Selection: | Ampicillin (100 ug/mL) |



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ORF Nucleotide Sequence:

>RG210226 representing NM_006252
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCTGAGAAGCAGAAGCACGACGGGCGGGTGAAGATCGGACACTACGTGCTGGCGCACACGCTGGGCG
 TCGGCACCTTCGGCAAAGTGAAGATTGGAGAACATCAATTAACAGGCCATAAAGTGGCAGTTAAAATCTT
 AAATAGACAGAAGATTCGCAGTTTATAGTGTGTTGAAAAATAAAACGAGAAATCAAAAATCTAAAATCT
 TTTCTGTCATCCTCATATTATCAAATAACCAGGTGATCAGCACTCCAACAGATTTTTTTATGGTAAATGG
 AATATGTGTCTGGAGGTGAATTTTACTACATCTGTAAGCATGGACGGGTTGAAGAGATGGAAGCCAG
 GCGGCTCTTTCAGCAGATTCTGTCTGTGGATTACTGTCATAGGCATATGGTTGTTTCATCGAGACCTG
 AAACCAGAGAATGTCCTGTTGGATGCACACATGAATGCCAAGATAGCCGATTTCCGATTATCTAATATGA
 TGTCAGATGGTGAATTTCTGAGAACTAGTTGCGGATCTCCAAATATGCAGCACCTGAAGTCATCTCAGG
 CAGATTGTATGCAGGTCCTGAAGTTGATATCTGGAGCTGTGGTGTATCTTGTATGCTCTCTTTGTGGC
 ACCCTCCATTTGATGATGAGCATGTACCTACGTTATTTAAGAAGATCCGAGGGGTGTCTTTTATATCC
 CAGAATATCTCAATCGTTCTGTGCCACTCTCCTGATGCATATGCTGCAGGTTGACCCACTGAAACGAGC
 AACTATCAAAGACATAAGAGAGCATGAATGGTTTAAACAAGATTTGCCAGTTACTTATTTCTGAAGAC
 CCTTCCTATGATGCTAACGTCATTGATGATGAGGCTGTGAAAGAAGTGTGTGAAAAATTTGAATGTACAG
 AATCAGAAGTAATGAACAGTTTATATAGTGGTGACCCCAAGACCAGCTTGCAAGTGGCTTATCATCTTAT
 CATTGACAATCGGAGAATAATGAACCAAGCCAGTGAGTTCTACCTCGCCTCTAGTCTCCATCTGGTTCT
 TTTATGGATGATAGTCCATGCATATCCCCCAGGCCTGAAACCTCATCCAGAAAGGATGCCACCTCTTA
 TAGCAGACAGCCCCAAAGCAAGATGCCATTGGATGCATGACTGAATACGACTAAGCCCAAATCTTTAGCTGT
 GAAAAAGCCAAGTGGCATCTTGGAAATCCGAAGTCAGAGCAAACCGTATGACATTATGGCTGAAGTTTAC
 CGAGCTATGAAGCAGCTGGATTTTGAATGGAAGGTAGTGAATGCATACCATCTTCGTGTAAGAAGAAAA
 ATCCAGTGACTGGCAATTACGTGAAATGAGCTTACAACCTTACCTGGTTGATAACAGGAGCTATCTTTT
 GGACTTTAAAAGCATTGATGATGAAGTAGTGGAGCAGAGATCTGGTTCTCAACACCTCAGCGTTCTGT
 TCTGCTGCTGGCTTACACAGACCAAGATCAAGTTTGTATCCACAACCTGCAGAGAGCCATTCACTTTCTG
 GCTCTCTACTGGCTCTTGACCGAAGCACATTGTCTTCACTTACCTCGCCTGGCAGTCACACCAT
 GGATTTTTTTGAATGTGTGCCAGTCTGATTACTACTTTAGCCCGT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG210226 representing NM_006252
 Red=Cloning site Green=Tags(s)

MAEKQKHDGRVKIGHYVLGDTLGVGTFGKVKIGEHQLTGHKVAVKILNRQKIRSLDVGKIKREIQNLKL
 FRPHPIIKLYQVISTPTDFFMVMEYVSGGELFDYICKHGRVEEMEARRLFQQILSAVDYCHRHMVVRDL
 KPENVLLDAHNAKIADFGLSNMMSDGEFLRTSCGSPNYAAPEVISGRLYAGPEVDIWSGCVILYALLCG
 TLPFDDEHVPTLFFKIRGGVFYIPEYLNRSVATLLMHMLQVDPLKRATIKDIREHEWFKQDLPSYLPED
 PSYDANVIDDEAVKEVCEKFECTESEVMNSLYSGDPQDQLAVAYHLIIDNRRIMNQASEFYASSPPSGS
 FMDDSAMHIPPGLKPHPERMPPLIADSPKARCPLDALNTTKPKSLAVKKAKWHLGIRSQSKPYDIMAEVY
 RAMKQLDFEWKVVNAYHLRVRKPNVPTGNVVKMSLQLYLDNRSYLLDFKSIDDEVVEQRSSTPQRSC
 SAAGLHRPRSSFDSTTAESHLSGSLTGSLTGSTLSSVSPRLGSHTMDFEMCASLITTLAR

TRTRPLE - GFP Tag - V

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.

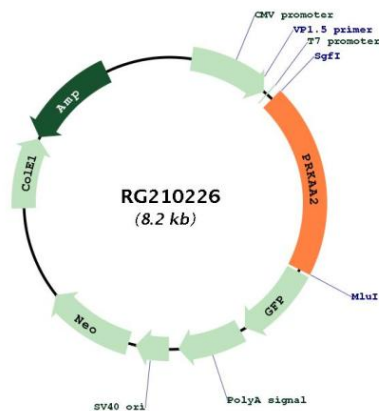
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

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.

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
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 RG210226