

Product datasheet for **RC203911**

AMPK beta 1 (PRKAB1) (NM_006253) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	AMPK beta 1 (PRKAB1) (NM_006253) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	AMPK beta 1
Synonyms:	AMPK; HAMPKb
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC203911 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGGCAATACCAGCAGTGAGCGCGCCGCTGGAGCGGCATGGTGGCCATAAGACGCCCCGGAGGGACA
GCTCGGGGGCACCAAGGACGGGGACAGGCCAAGATCCTGATGGACAGCCCCGAAGACGCCACCTCTT
CCACTCCGAGGAAATCAAGGCACCAGAGAAGGAGGAATTCCTGGCCTGGCAGCATGATCTGGAAGTGAAT
GATAAAGCTCCCGCCAGGCTCGGCCAACGGTGTTCGATGGACGGGGGGCGAAAGGAAGTTTACTTAT
CTGGGTCCTTCAACAACCTGGAGTAACTTCCCCTCACCAGAAGCCACAATAACTTTGTAGCCATCCTGGA
TCTGCCGAAGGAGAGCATCAGTACAAGTCTTTGTGGATGGTCAGTGGACGCACGACCCCTCCGAGCCC
ATAGTAACCAGCCAGCTTGGCACAGTTAACAACATCATTCAAGTGAAGAAAAGTACTTTGAAGTATTTG
ATGCTTTAATGGTGGATTCCCAAAGTGCTCCGATGTGTCTGAGCTGTCCAGTTCTCCCCAGGACCCCTA
CCATCAGGAGCCCTACGTCTGCAAACCCGAAGAGCGCTTTCGGGCACCCCTATTCTCCCCCACATCTC
CTCCAGGTCATCCTGAACAAGGACAGGGGATTCCTGTGATCCAGCTTTGCTTCTGAGCCCAATCAGC
TCATGTGAACCCCTATACGCGCTGTCTATCAAGGATGGAGTGATGGTGCTCAGCGCAACCCACCGGTA
CAAGAAGAAGTACGTACCACCTTGTTATACAAGCCATA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC203911 protein sequence
Red=Cloning site Green=Tags(s)

MGNTSSERAALERHGGHKTPRRDSSGGTKDGRPKILMDSPEADLFHSEEIKAPEKEEFLAWQHDLEVN
 DKAPAQARPTVFRWTGGGKEVYLSGSFNNWSKLP LTRSHNNFVAILDPEGEHQYKFFVDGQWTHDPSEP
 IVTSQLGTVNNIIQVKKTD FEVFDALMVDSQKCSVSELSSSPPGYPYHQEPYVCKPEERFRAPPILP
 LPHL LQVILNKDTGISCDPALLPEPNHVMLNHL YALS IKDGMVLSATHRYKKKYVTTLLYKPI

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6268_h07.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_006253

ORF Size: 810 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_006253.5](#)

RefSeq Size: 2412 bp

RefSeq ORF: 813 bp

Locus ID: 5564

UniProt ID: [Q9Y478](#)

Cytogenetics: 12q24.23

Domains: isoamylase_N, AMPKBI

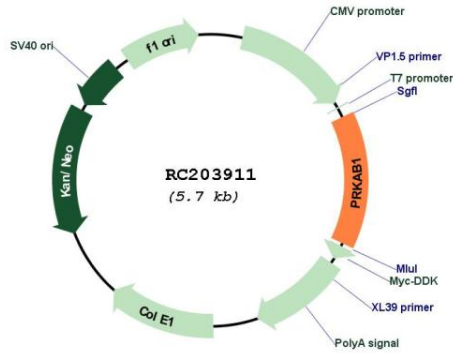
Protein Families: Druggable Genome

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

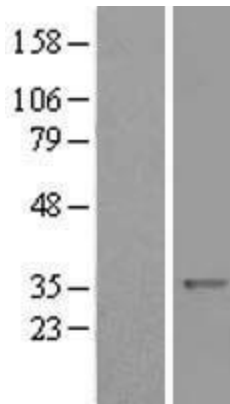
MW: 30.4 kDa

Gene Summary: The protein encoded by this gene is a regulatory 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. This subunit may be a positive regulator of AMPK activity. The myristoylation and phosphorylation of this subunit have been shown to affect the enzyme activity and cellular localization of AMPK. This subunit may also serve as an adaptor molecule mediating the association of the AMPK complex. [provided by RefSeq, Jul 2008]

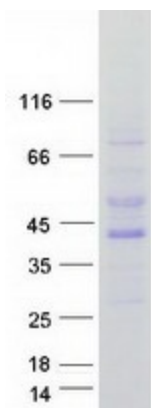
Product images:



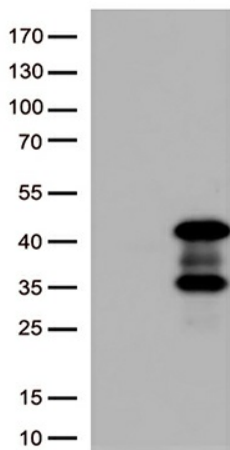
Circular map for RC203911



Western blot validation of overexpression lysate (Cat# [LY416773]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC203911 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PRKAB1 protein (Cat# [TP303911]). The protein was produced from HEK293T cells transfected with PRKAB1 cDNA clone (Cat# RC203911) using MegaTran 2.0 (Cat# [TT210002]).



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY PRKAB1 (Cat# RC203911, 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-PRKAB1 (Cat# [TA813121])(1:500).