

## PRKAA1 cDNA

Catalog Number: ATGD0185

### PRODUCT INFORMATION

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**Catalog number**

ATGD0185

**Product type**

cDNA

**Species**

Human

**NCBI Accession No.**

NP\_006242.5

**Alternative Names**

PRKAA1, 5-AMP-activated protein kinase catalytic subunit alpha-1 isoform 1, AMPK, AMPKa11

**mRNA Refseq**

NM\_006251.5

**OMIM**

602739

**Chromosome location**

5p12

### PRODUCT SPECIFICATION

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**Formulation**

Lyophilized

**Storage**

Store the plasmid at -20C.

**cDNA Size**

1680bp

**Preparation before usage**

1. Centrifuge at 7000rpm for 1 minute.
2. Carefully open the vial and add 100ul of sterile water to dissolve the DNA. Each tube contains approximately 10ug of lyophilized plasmid.

**Vector description**

This shuttle vector contains the complete ORF. It is inseted Apa I to Xho I. The gene insert contains multiple cloning sites which can be used to easily cut and transfer the gene and recombination site into your expression vector.

**Cloning Vector**

pATGen (puc19-derived cloning vector)

**General Description**

# PRKAA1 cDNA

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PRKAA1 protein encoded by PRKAA1 belongs to the ser/thr protein kinase family. It is the catalytic subunit of the 5'-prime-AMP-activated protein kinase (AMPK). AMPK is a cellular energy sensor conserved in all eukaryotic cells. The kinase activity of AMPK is activated by the stimuli that increase the cellular AMP/ATP ratio. AMPK regulates the activities of a number of key metabolic enzymes through phosphorylation. It protects cells from stresses that cause ATP depletion by switching off ATP-consuming biosynthetic pathways. Alternatively spliced transcript variants encoding distinct isoforms have been observed.

## DATA

### Sequence nucleotides

```
ATGCGCAGACTCAGTTCCTGGAGAAAGATGGCGACAGCCGAGAAGCAGAAACACGACGGGCGGGTGAAGATCGGCCACTA
CATTCTGGGTGACACGCTGGGGGTCGGCACCTTCGGCAAAGTGAAGGTTGGCAAACATGAATTGACTGGGCATAAAGTAGC
TGTGAAGATACTCAATCGACAGAAGATTCGGAGCCTTGATGTGGTAGGAAAAATCCGCAGAGAAATTCAGAACCTCAAGCTT
TTCAGGCATCCTCATATAATTAACGTACCAGGTCATCAGTACACCATCTGATATTTTCATGGTGATGGAATATGTCTCAGG
AGGAGAGCTATTTGATTATATCTGTAAGAATGGAAGGCTGGATGAAAAAGAAAGTCGGCGTCTGTTCCAACAGATCCTTTCT
GGTGTGGATTATTGTCACAGGCATATGGTGGTCCATAGAGATTTGAAACCTGAAAATGTCCTGCTTGATGCACACATGAATG
CAAAGATAGCTGATTTTGGTCTTTCAAACATGATGTCAGATGGTGAATTTTTAAGAACAAGTTGTGGCTCACCCAACATGCT
GCACCAGAAGTAATTTAGGAAGATTGTATGCAGGCCAGAGGTAGATATATGGAGCAGTGGGGTTATTCTCTATGCTTTAT
TATGTGGAACCCTCCATTTGATGATGACCATGTGCCAACTCTTTTTAAGAAGATATGTGATGGGATCTTCTATACCCCTCAA
TATTTAAATCCTTCTGTGATTAGCCTTTGAAACATATGCTGCAGGTGGATCCCATGAAGAGGGCCACAATCAAAGATATCAG
GGAACATGAATGGTTTAAACAGGACCTTCCAAAATATCTCTTTCTGAGGATCCATCATATAGTTCAACCATGATTGATGATG
AAGCCTTAAAGAAGTATGTGAAAAGTTTGAGTGCTCAGAAGAGGAAGTTCTCAGCTGTCTTTACAACAGAAATCACCAGGA
TCCTTTGGCAGTTGCCTACCATCTCATAATAGATAACAGGAGAATAATGAATGAAGCCAAAGATTTCTATTTGGCGACAAGC
CCACCTGATTCTTTCTTGATGATCATCACCTGACTCGGCCCATCCTGAAAGAGTACCATTCTGGTTGCTGAAACACCAAG
GGCAGCCATACCCTTGATGAATTAATCCACAGAAATCCAAACACCAAGGTGTAAGGAAAGCAAATGGCATTAGGAATT
AGAAGTCAAAGTCGACCAAATGATATTATGGCAGAAGTATGTAGAGCAATCAAACAATTGGATTATGAATGGAAGGTTGTAA
ACCCATATTATTTGCGTGTACGAAGGAAGAATCCTGTGACAAGCACTTACTCCAAAATGAGTCTACAGTTATACCAAGTGGA
TAGTAGAACTTATCTACTGGATTTCCGTAGTATTGATGATGAAATTACAGAAGCCAAATCAGGGACTGCTACTCCACAGAGAT
CGGGATCAGTTAGCAACTATCGATCTTGCCAAAGGAGTGATTGAGTGTGAGGCTCAAGGAAAATCCTCAGAAGTTTCTCT
TACCTCATCTGTGACCTCACTTGACTCTTCTCTGTTGACCTAACTCCAAGACCTGGAAGTCACACAATAGAATTTTTTGAGA
TGTGTGCAAATCTAATTAATTTCTTGCACAATAA
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### Transaction Sequence

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MRRLSSWRKM ATA EKQKHDG RVKIGHYILG DTLGVGTFGK VKVGKHELTG HKVAVKILNR QKIRSLDVVG KIRREIQNLK
LFRHPHIIKL YQVISTPSDI FMVMEYVSSG ELFDYICKNG RLDEKESRRL FQILSGVDY CHRHMVVHRD LKPENVLLDA
HMNAKIADFG LSNMMSDGEF LRTSCGSPNY AAPEVISGRL YAGPEVDIWS SGVILYALLC GTLPFDDDHV PTLFKKICDG
IFYTPQYLNQ SVISLLKHML QVDPMKRATI KDIREHEWFK QDLPKYLPE DPSYSSTMID DEALKEVCEK FECSEEEVLS
CLYNRNHQDP LAVAYHLLID NRRIMNEAKD FYLATSPDSD FLDDHHLTRP HPERVPFLVA ETPRARHTLD ELNPQKSKHQ
GVRKAKWHLG IRSQSRPNDI MAEVCRAIKQ LDYEWKVVNP YYLRVRRKNP VTSTYSKMSL QLYQVDSRTY LLDFRSIDDE
ITEAKSGTAT PQRSQSVSNY RSCQRSDDA EAQGSSEVS LTSSVTSLDS SPVDLTPRPG SHTIEFFEMC ANLIKILAQ
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