

Product datasheet for **MR225341**

Prkag3 (NM_153744) Mouse Tagged ORF Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | Prkag3 (NM_153744) Mouse Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | Prkag3 |
| Synonyms: | Amkg3; Ampkg3; AMPKg3L; AMPKg3S |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |



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ORF Nucleotide Sequence:

>MR225341 representing NM_153744
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGAGCCCGAGCTGGAGCACACATTGCCCTGGGACCTGACCTGGAGCCACAGTGGGGTCCAGAGAGTC
 AAGAGATGGACTTCTTAGAACAAAGGAGAAAACATGGCCCTCACCAGCTGTGGCCACCAGCTCAGAAAAG
 AACCTGTGCCATACGGGGAGTCAAGGCTTCCAGATGGACGAGACAGGAGGCCGTAGAGGAAGCAGAACCA
 CCAGGTTTGGGAGAAGGTGCCAGTCCAGACCAGCTGCTGAGTCCACCAGGCAGGAGGCCACATCCCGA
 AGGCCACACCCTTGGCTCAAGCTGTTCCCTTGGCTGAAGCGGAGACCTCCCCACAGGGTGGGACCTGCT
 CTTGCCGACTGTGCAGCCTCAGCAGGGGGCTCCAGCACAGGTGACCTGGAGCTGACCATAGAGTCCCA
 GCCCCAGAGGCCCTGGGACTGTGAGCTGGAAGGCCTGGGAAGGACAGGCCCTCGTCTGGTCCATCCCCAC
 AGGCCCACTTCTCGGCCTGAGTTGGGATGACGAACCTCAGAAGCCCGAGCCAGGTCTACATGCACTT
 CATGCAGGAACACACCTGTTATGATGCCATGGCTACCAGCTCAAATTTGGTCATCTTTGACACCAGTTG
 GAGATAAAGAAGCTTTCTTTGCCATGGTGGCCAACGGTGTGAGGGCAGCTCCTCTGTGGACAGCAAGA
 AGCAGAGCTTTGTGGTATGCTCACCATCACTGACTTTATCCTGGTGTGCACCGGTAACAGATCCCC
 CCTGGTCCAGATCTATGAGATTGAAGAACATAAGATTGAGACCTGGAGGGAGATCTACCTACAAGGCTGC
 TTCAAGCCTCTAGTCTCCATCTCTCCCAATGACAGCCTGTTTGAAGCTGTCTATGCCCTCATCAAGAACC
 GAATCCACCGCCTGCCGGTCTGGACCCGGTCTCTGGCACTGTGCTCTACATACTCACACACAAGCGGCT
 ACTCAAGTTCTGCATATATTTGGTGCCTGTTGCCCGGCCCTCTTCTCTGCCGCACTATCCAAGAC
 TTGGGCATCGGCACATCCGAGATTTGGCTGTAGTCTGGAACAGCTCCTGTCTGACTGCGCTGGACA
 TCTTTGTGGACCGAGTGTGCTGCACTGCCTGTGGTCAATGAATCTGGTCAAGTCTGGGAGGAGCT
 CCGCTTTGATGTCAATCACCTGGCTGCCAGCAACCTACAACCACCTAGACATGAGTGTGGGAGAAGCT
 CTGAGACAGAGGACACTGTGCTGGAGGAGTTCTCTCTGCCAGCCCCAGAGCCTAGTGAAGTCA
 TTGACAGGATCGCACGGGAACAGGTGCATAGGCTGGTGTGGTGGATGAGACCCAGCATCTTCTGGGCGT
 GGTCTCCCTCTGACATACTTCAAGCACTGGTACTCAGCCCTGCTGGCATCGATGCCCTCAGCGCC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR225341 representing NM_153744
 Red=Cloning site Green=Tags(s)

MEPELEHTLPGTLTWSHSGGPESQEMDFLEQGENSWPSPAVATSSERTCAIRGVKASRWTRQEAVEEAEAP
 PGLGEGAQSRPAAESTRQEATFPKATPLAQAVPLAEAEETSPTGWDLLLPCDAASAGGSSTGDLELTIEFP
 APEAWDCELEGLGKDRPRPGSPQAPLLGLSWDDELQKPGAQVYMHFMQEHTCYDAMATSSKLVIFDRTL
 EIKKAFFAMVANGVRAAPLWDSKKQSFVGMILTDFILVLHRYRSPLVQIYEIEEHKIETWREIYLQGC
 FKPLVSI SPNDSLFEAVYALIKNRIHRLPVLDPVSGTVLYILTHKRLKFLHIFGALLPRPSFLCRTIQD
 LGIGTFRDLAVVLETAPVLTALDIFVDRRVSALPVVNESGQVVGLYSRFDVIHLAAQQTYNHLDMSVGEA
 LRQRTLCEGLVSCQPHESLGEVIDRIAREQVHRLVLVDETQHLLGVVSLSDILQALVLS PAGIDALSA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mm9032_f12.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_153744

ORF Size: 1467 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_153744.3](#), [NP_714966.1](#)
RefSeq Size: 2835 bp

RefSeq ORF: 1470 bp

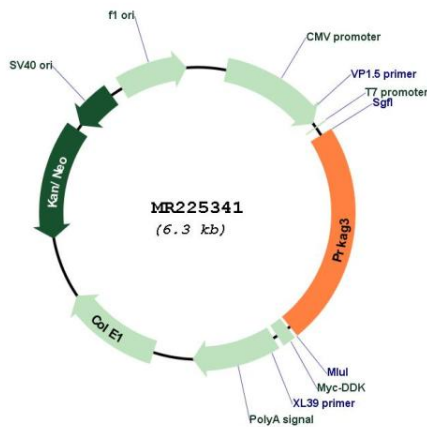
Locus ID: 241113

UniProt ID: [Q8BGM7](#)
Cytogenetics: 1 C4

MW: 54.3 kDa

Gene Summary: AMP/ATP-binding subunit of AMP-activated protein kinase (AMPK), an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism. In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and inhibits energy-consuming processes: inhibits protein, carbohydrate and lipid biosynthesis, as well as cell growth and proliferation. AMPK acts via direct phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators. Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating myosin. Gamma non-catalytic subunit mediates binding to AMP, ADP and ATP, leading to activate or inhibit AMPK: AMP-binding results in allosteric activation of alpha catalytic subunit (PRKAA1 or PRKAA2) both by inducing phosphorylation and preventing dephosphorylation of catalytic subunits. ADP also stimulates phosphorylation, without stimulating already phosphorylated catalytic subunit. ATP promotes dephosphorylation of catalytic subunit, rendering the AMPK enzyme inactive (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR225341