

Product datasheet for **MG225341**

Prkag3 (NM_153744) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Prkag3 (NM_153744) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Prkag3
Synonyms:	Amkg3; Ampkg3; AMPKg3L; AMPKg3S
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG225341 representing NM_153744
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGGAGCCCGAGCTGGAGCACACATTGCCCTGGGACCTGACCTGGAGCCACAGTGGGGTCCAGAGAGTC
 AAGAGATGGACTTCTTAGAACAAAGGAGAAAACATGGCCCTCACCAGCTGTGGCCACCAGCTCAGAAAAG
 AACCTGTGCCATACGGGGAGTCAAGGCTTCCAGATGGACGAGACAGGAGGCCGTAGAGGAAGCAGAACCA
 CCAGGTTTGGGAGAAGGTGCCAGTCCAGACCAGCTGCTGAGTCCACCAGGCAGGAGGCCACATCCCGA
 AGGCCACACCCTTGGCTCAAGCTGTTCCCTTGGCTGAAGCGGAGACCTCCCCACAGGGTGGGACCTGCT
 CTTGCCGACTGTGCAGCCTCAGCAGGGGGCTCCAGCACAGGTGACCTGGAGCTGACCATAGAGTCCCA
 GCCCAGAGGCCCTGGGACTGTGAGCTGGAAGGCCTGGGAAGGACAGGCCTCGTCTGGTCCATCCCCAC
 AGGCCCACTTCTCGGCCTGAGTTGGGATGACGAACCTCAGAAGCCGGAGCCAGGTCTACATGCACTT
 CATGCAGGAACACACCTGTTATGATGCCATGGCTACCAGCTCAAATTTGGTCATCTTTGACACCAGTTG
 GAGATAAAGAAGGCTTTCTTTGCCATGGTGGCCAACGGTGTGAGGGCAGCTCCTCTGTGGACAGCAAGA
 AGCAGAGCTTTGTGGTATGCTCACCATCACTGACTTTATCCTGGTGTGCACCGGTAACAGATCCCC
 CCTGGTCCAGATCTATGAGATTGAAGAACATAAGATTGAGACCTGGAGGGAGATCTACCTACAAGGCTGC
 TTCAAGCCTCTAGTCTCCATCTCTCCAATGACAGCCTGTTTGAAGCTGTCTATGCCCTCATCAAGAACC
 GAATCCACCGCCTGCCGGTCTGGACCCGGTCTCTGGCACTGTGCTCTACATACTCACACACAAGCGGT
 ACTCAAGTTCTCGATATATTTGGTGCCTGTTGCCCGGCCCTCCTTCTCTGCCGACTATCCAAGAC
 TTGGGATCGGCACATCCGAGATTTGGCTGTAGTCTGGAACAGCTCCTGTCTGACTGCGCTGGACA
 TCTTTGTGGACCGAGTGTGCTGCACTGCCTGTGGTCAATGAATCTGGTCAGGTGCGGCTCTACTC
 CGCCTTTGATGTCAATCACCTGGCTGCCAGCAAACCTACAACCACCTAGACATGAGTGTGGGAGAGCT
 CTGAGACAGAGGACACTGTGCTGGAGGAGTTCTCTCTGCCAGCCCCACGAGGCCTAGTGAAAGTCA
 TTGACAGGATCGCACGGGAACAGGTGCATAGGCTGGTGTGGTGGATGAGACCCAGCATCTTCTGGGCGT
 GGTCTCCCTCTGACATACTTCAAGCACTGGTACTCAGCCCTGCTGGCATCGATGCCCTCAGCGCC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG225341 representing NM_153744
 Red=Cloning site Green=Tags(s)

MEPELEHTLPGTLTWSHSGGPESQEMDFLEQGENSWPSPAVATSSERTCAIRGVKASRWTRQEAVEEAEPE
 PGLGEGAQSRPAAESTRQEATFPKATPLAQAVPLAEAEETSPTGWDLLLDPDCAASAGGSSTGDLELTIEFP
 APEAWDCELEGLKDRPRPGPSPQAPLLGLSWDDELQKPGAQVYMHFMQEHTCYDAMATSSKLVIFDITL
 EIKKAFFAMVANGVRAAPLWDSKKQSFVGMILTDFILVLHRYRSPLVQIYEIEEHKIEIETWREIYLQGC
 FKPLVSI SPNDSLFEAVYALIKNRIHRLPVLDPVSGTVLYILTHKRLKFLHIFGALLPRPSFLCRTIQD
 LGIGTFRDLAVVLETAPVLTALDIFVDRRVSALPVVNESGQVVGLYSRFDVIHLAAQQTYNHLDMSVGEA
 LRQRTLCEGLVLSQPHESLGEVIDRIAREQVHRLVLDVETQHLLGVVSLSDILQALVLSPAGIDALSA

TRTRPLE - GFP Tag - V

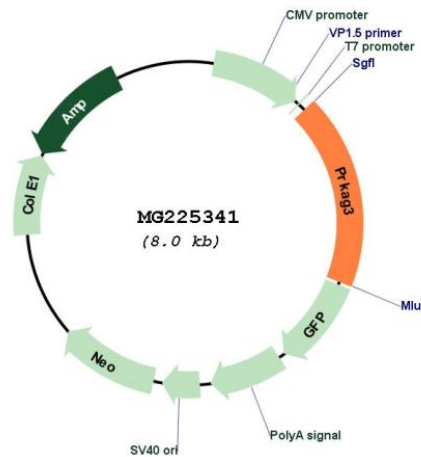
Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



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

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]