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Product datasheet for MC209225

Prkag1 (NM_016781) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Prkag1 (NM_016781) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Prkag1
Synonyms:	AA571379; BB036179; Prkaac
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>MC209225 representing NM_016781 Red=Cloning site Blue=ORF Orange=Stop codon TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC GCCGCGATCGCC ATGGAGTCGGTTGCTGCAGAGAGCTCGCCAGCTCTAGAGAATGAACACTTTCAAGAGACCCCGGAATCAA ACAATAGTGTGTATACTTCCTTCATGAAGTCTCATCGCTGCTATGACCTAATTCCCACAAGTTCCAAGTT GGTGGTATTTGACACTTCGCTACAGGTAAAGAAAGCCTTTTTTGCCCTGGTGACCAATGGTGTTCGTGCC GCCCCTTTGTGGGACAGTAAGAAGCAGAGTTTTGTGGGCATGCTGACCATCACCGACTTCATCAACATTT TGCACCGATACTATAAGTCAGCCCTGGTGCAGATCTACGAACTGGAGGAGCACAAGATAGAGACGTGGAG AGAGGTGTACCTGCAGGACTCCTTTAAGCCACTTGTCTGCATCTCTCCAAATGCCAGCTTGTTTGATGCT GTCTCTTCATTAATTCGAAATAAGATCCACAGGCTCCCAGTTATCGACCCAGAGTCAGGCAACACCTTGT ACATCCTTACTCACAAGCGGATCCTCAAGTTCCTCAAGTTGTTTATCACCGAGTTCCCCAAGCCGGAATT CATGTCTAAGTCTCTCCAAGAGCTGCAGATTGGCACCTATGCCAATATTGCCATGGTCCGTACTACCACG CCTGTCTACGTGGCTCTGGGCATCTTTGTACAGCACCGAGTCTCCGCCTTACCTGTAGTGGATGAGAAAG GGCGTGTGGTGGACATCTACTCCAAGTTTGATGTGATCAATTTGGCAGCCGAAAAGACCTACAACAACCT AGATGTGTCTGTGACAAAAGCCCTGCAGCATCGGTCCCACTACTTTGAGGGTGTTCTCAAATGCTACCTG CATGAGACTCTGGAAACCATCATCAATAGGCTGGTGGAGGCAGAGGTTCACCGTCTGGTGGTGGTGGATG AACACGACGTGGTCAAGGGCATCGTTTCGCTGTCTGACATCTTACAGGCTCTGGTGCTCACGGGTGGAGA GAAGAAGCCCTGA ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT ACAAGGATGACGACGATAAGGTTTAA
Restriction Sites:	SgfI-MluI

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ACCN:	NM_016781
Insert Size:	993 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
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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_016781.2, NP_058061.2
RefSeq Size:	1680 bp
RefSeq ORF:	993 bp
Locus ID:	19082
UniProt ID:	O54950
Cytogenetics:	15 54.73 cM

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]