

Product datasheet for **MR231432**

Arhgef2 (NM_001198912) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Arhgef2 (NM_001198912) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Arhgef2
Synonyms:	AA408978; GEF; GEF-H1; GEFH1; Lbcl1; Lfc; LFP40; mKIAA0651; P40
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>MR231432 representing NM_001198912
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGAAGGAAGCTAAAGATGCCCCGTATACCAACGGCCACCTCTTACCACCATCTCGTCTCCGGCATGA
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 CATCCACAACCGCTGTAAAGACACCCTGGCCAACGTACCAAGGTCAAGCAGAAGCAACAGAAAAGCTGCA
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 GAGC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR231432 representing NM_001198912
 Red=Cloning site Green=Tags(s)

MKEAKDARYTNGHLFTTISVSGMTMCYACNKSITAKEALICPTCNVTIHNRCKDTLANCTKVQKQKQKAA
 LLRNNTALQSVSLRSKTTTRERPTSAYPSDSFRQSLGSRRLSSLAKSVSTTNIAGHFNDESPLGL
 RQILSQSTDSLNRNRTL SVESLIDEGVEVFYNELMSDFEMDEKDFEADSWSLAVDSSFLQHKKEVMKK
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 KPSVVS LQNLIVRDIANQAKGMFLISSGPPMEYVHAASRDDRTTWIRVIQSVRLCPSREDFPLIETED
 KAYLRRIKTKLQKNQALVELLQKNVELFAEMVHFQALKAGFVGMPPALPRGLFRLESFESLGERLLK
 DALREVEGLKDLLGPCVDLPMTSREPALPLDSDSGSCPVTANGEARTFNNGSIELCRADSDSSQKDRNG
 NQLRSPQEEVLQPLINLYGLLHGLQAVVVQERLMEALFPEGPERWEKLSRANSRDGEAGRAAVASVTP
 KQATELALLQRQHTLLQEELRRCQRLGEERATEAGSLEARLRESEQARALLEREAEIIRQLAALGQNEP
 LPAEAPWARRPLDPRRSLPAGDALYLSFNPPQPSRGHDRLDLPVTVRSLHRPFDREAQELGSPEDRLQ
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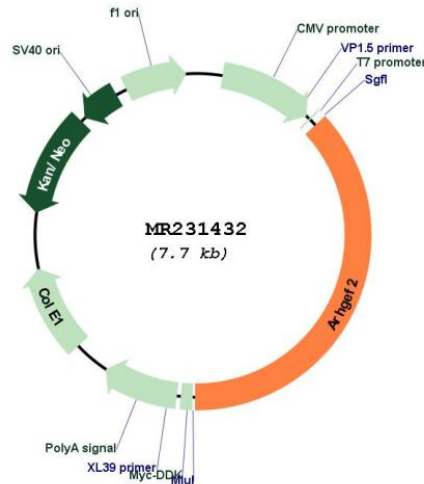
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_001198912

ORF Size: 2874 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_001198912.2](#)

RefSeq Size: 4290 bp

RefSeq ORF: 2877 bp

Locus ID: 16800

UniProt ID: [Q60875](#)

Cytogenetics: 3 F1

MW: 109.2 kDa

Gene Summary: Activates Rho-GTPases by promoting the exchange of GDP for GTP. May be involved in epithelial barrier permeability, cell motility and polarization, dendritic spine morphology, antigen presentation, leukemic cell differentiation, cell cycle regulation, innate immune response, and cancer. Binds Rac-GTPases, but does not seem to promote nucleotide exchange activity toward Rac-GTPases. May stimulate instead the cortical activity of Rac. Inactive toward CDC42, TC10, or Ras-GTPases. Forms an intracellular sensing system along with NOD1 for the detection of microbial effectors during cell invasion by pathogens. Involved in innate immune signaling transduction pathway promoting cytokine IL6/interleukin-6 and TNF-alpha secretion in macrophage upon stimulation by bacterial peptidoglycans; acts as a signaling intermediate between NOD2 receptor and RIPK2 kinase. Contributes to the tyrosine phosphorylation of RIPK2 through Src tyrosine kinase leading to NF-kappaB activation by NOD2. Overexpression activates Rho-, but not Rac-GTPases, and increases paracellular permeability (By similarity). Involved in neuronal progenitor cell division and differentiation (PubMed:28453519). Involved in the migration of precerebellar neurons (PubMed:28453519). [UniProtKB/Swiss-Prot Function]