

## Product datasheet for MC203680

### Arhgef2 (NM\_008487) Mouse Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Arhgef2 (NM_008487) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Arhgef2
Synonyms:	AA408978; GEF; GEF-H1; GEFH1; Lbcl1; Lfc; LFP40; mKIAA0651; P40
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>MC203680 representing NM_008487. Blue=ORF Red=Cloning site Green=Tag(s)

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CTATAGGGCGGCCGGGAATTCGTGCGACTGGATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCCGGCG
CGCCAGATCTCAAGCTTAAGTAGCTAGCGGACCGAC
GTGCGGCCGACCCTCCCCGCGTTGCTGGACACCCGGGGCCGCCGCTCCTCCCGGGCTCACGCT
GGATTATGTCTCGGATCGAATCCCTCACTCGCGCGGATCGACCGGAGCAAGGAGCAGGCAACCAAGA
CCCGGGAAAAGGAGAAGATGAAGGAAGCTAAAGATGCCCGCTATACCAACGGCCACCTCTTACCACCA
TCTCCGCTCCTCGGCATGACCATGTGCTATGCCTGTAACAAGAGCATCACAGCCAAGGAAGCCCTCATT
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GCCGCCACCAAGGCCTTAAAGCTCTATAAGGAGCTGTATGCTCGAGACAAACGCTTCCAACAGTTCA
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AGCTGGAGAAAGAGGCCCGCCTGCAGGAGATTTACAACCGAATGGATCCCGGGCTCAGACCCCGTAC
CTGGCAAGGGCCCTTCGGCCGAGATGAACTTTACGGAGAAAACCTTATCCATGAAGGCTGCCTGCTCT

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GGAAGACAGCCACAGGCCGCTTCAAAGATGTCCTGTTGCTGCTGATGACAGACGTGCTCGTGTCTCC
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CTGATACTGGTAGTGAGGAGGAAGTCAAGTACGCGCCTGTCTCCACCTCACAGTCTCGAGACTTCACCC
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ACACTTCCCCCACCCTGGTGGCCCACTGAAGAACATTAGTAAAGGGGGCAAACCTTGAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
ACGGCGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATTACAAG
GATGACGACGATAAGGTTTAAACGGCCGGCCGCGGT
    
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**Restriction Sites:**

RsrII-NotI

**ACCN:**

NM\_008487

**Insert Size:**

3154 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](mailto: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.

**RefSeq:** [BC006589](#)

**RefSeq Size:** 3154 bp

**RefSeq ORF:** 2958 bp

**Locus ID:** 16800

**UniProt ID:** [Q60875](#)

**Cytogenetics:** 3 F1

**MW:** 116.6 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]

Transcript Variant: This variant (1) encodes the longest isoform (1). Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.