

## Product datasheet for **MG221832**

### Arhgef1 (NM\_001130153) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Arhgef1 (NM_001130153) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Arhgef1
Synonyms:	Lbcl2; Lsc
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>MG221832 representing NM\_001130153  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGGAGAAGTCGCCGGAGGGCGGCCAGGGCCTCCCGGTCTGGCCTGGTGTCCATCATCATCGGGG  
 CGGAGGATGAGGATTTTGAAGACGAGCTGGAGCGGAACCTAGAAGATCAAAACAGCCAGTCCAGAGCCT  
 AGAGCAAGTGAAGCGCCGCCCTGCCACCTCATGGCCCTCCTGCAGCATGTGGCCCTGCAGTTCCAGGCCA  
 GGACCACTGCTCTGCTGCCTGCATGCAGACATGCTGAGCTCTCTGGGCCCAAAGAAGCCAAGAAGGCCCT  
 TCCTTGACTTCTATCACAGTTTCTGGAGAAGACTGCGGTTCTACGGGTGCCGGTCCCTCCAGTGTGCG  
 TTTTGAACCTGATCGTACTCGACCTGATCTGATCTCTGAGGATGTCCAGAGGCGGTTACATAAGAGGTG  
 GTGCAGAGCCAGCAGGCAGCCGTGAGCCGTGAGTACAGGACTCCGCTCTAAGCGGCTCATGGGCATGA  
 CGCCCTGGGAGCAGGAAGTGAAGCCGTGAGCCCTGGATTGGGAAAGACCGAGGCAACTATGAGGCCCG  
 GGAGCGCATGTTGCGGAGCGGTGCTGTCCACCTGGAGGAGACCCAGCATAACCATCTCTACAGATGAA  
 GAGAAAAGTGTCTGTGGTCACTGCCATCAGCCTGTATATGCGCCACCTTGGAGTCCGGACCAAGAGTG  
 GGGACAAGAAGTCGGGAAGGAACCTCTCCGAAAAAGGTGATGGGAATCGGAGGTCAGACGAACCCCC  
 AAAGACAAAGAAAGGGCTGAGCAGTATCCTAGATCCTGCACGTTGGAACCGGGGAGAGCCATCCGCTCCA  
 GATTGTGACATCTAAAGGTCGAGGCTGATGCAGAGAAGCCAGGCCCTGCAGACCGGAAGGGAGGCCCTGG  
 GTATGTCTTCTCGGGACAGGACTGTTGGGACTCCTGGACAGGACAACCCAGGAGTCTCCCTGCACCTCT  
 GTCTACAGACAGCGTCACTCCCGGAACAGCGGTGGATAACCCGAGGAGCCAGGGGATACACCCCCA  
 CAGGGCCCTACCAGCCTGGAGCCCTGGCGCCCCAGAGAGCACAGAGGACAATGGCAGACTGAGAGCC  
 CTGAGCCCGGAGATGATGGGAGCCAGGACGGTCAAGCCTGGAACCTGGAACCAAGAAGCACTCTGGGTG  
 GAGGGAACTCGTGCCCCAGACACCCTGCTCAGTCTGCCAAGAGCCAAGTGAAGCGGCAAGAGGTCATC  
 AGCGAGTGTCTGACTGAGGCAGCTCAGTGCATGCTACGGTACTGCATGACCTCTTCTACCAGC  
 CCATGGCGGATGGAGGCTTCTCCCTCTGGACGAGCTGCAGAACATCTTCCCGAGCCTGGATGAGCTCAT  
 CGAGGTGCACTCCCTGTTCTCGATCGTTGATGAAGCGGAGACAAGAGAGTGGTACCTCATTGAGGAG  
 ATCGGCGATGTGCTACTGGCCCGGTTGATGGTGTGAGGGCTCATGGTCCAGAAGATCTCTCCCGCT  
 TCTGCAGCCGAGTCTGCTCTAGAGCAGCTCAAAGCCAAGCAGCGCAAGGAGCCTCGGTTCTGTGC  
 CTTTGTGACGAAAGTGAAGCCCGGAGATGCCGGCGCTACAGTTAAAGGACATGATCCCACTGAG  
 ATGCAGCGACTGACCAAGTACCACTGCTGCTACAGAGCATCGGGCAGAACACAGAGGAGTCTACAGAAC  
 GAGGGAAAAGTGGAGCTTGCAGCTGAGTGTGCCGGGAGATTCTGCACCATGTCAATCAAGCCGTCGGTGA  
 CATGGAGGACCTGCTGCGGCTCAAGGATTACCAGCGGCGCCTGGACTTGACTCACCTACGGCAGAGCAGT  
 GACCCTATGCTGAGCGAGTTCAAGAACCTGGACATCACTAAGAAGAAGTTGGTCCATGAAGGCCCCCTCA  
 CGTGGCGAGTGACCAAAGACAAAGCTATAGAAGTGCACGTGCTCTTGTGGACGACCTGTGCTGCTGCT  
 CCAGCGCCAGGACGAGAGGCTGTGCTCAAGTCCCACAGCCGGACGCTGACACCTACCCCGATGGCAAG  
 ACCATGCTGCGGCCGGTCTCCGGCTCACCTCTGCCATGACCCGAGAGGTGGCCACTGATCAAAAGCTT  
 TCTACGTCATTTTTACCTGGGACCAGGAGGCCAGATATATGAGCTGGTGGCACAGACATCTTCGGAACG  
 CAAAAAAGTGTAACTCATCACTGAGACTGCTGGATCCCTGAAGTCCCTGCCCTGCCCTCCCGCCTC  
 AAACCCCGGCCAGCCAAAGCAGCATCCGAGAACCCTGCTCAGCAGCTCTGAGAATGGCACTGGAGGCG  
 CAGAGATGGTCCAGCTGATGCCAGGACAGAGCGGCTCCTCAATGACCTCCTGCCCTTCTGCAGACCAGG  
 CCCAGAGGGCCAGCTTGTGCCACAGCCCTCAGAAAAGTACTGTCCCTGAAGCAGATCCTGCTAAGCACT  
 GAGGAAGACAGTGGAGCGGGGCTCCCGCGATGGGATGGGGTGCCTGGTGGTGGGCCCCCGGCCAG  
 TGCACACCCAGGAGATTGAGGAAAAGTGTAGCTTAGAGGTGGCCATCAGACAAGTGGAGGAGTTGGA  
 AGAGGAATTTTGTGCTAAGACCCCTCTGTCCAGCTTGGGGGACTGTGCCCAACCTGGCTGCA  
 CCTGAACGCTCTGCTCAGACAGGCTTTCA

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >MG221832 representing NM\_001130153  
 Red=Cloning site Green=Tags(s)

MGEVAGGAAPGPPRSLVSIIGAEDDFENELEANSQDQNSQFQSLEQVKRRPAHLMALLQHVALQFEP  
 GPLLCCCLHADMLSSLGPKEAKKAFLEDFYHSFLEKTAFLRVPVPPSVAFELDRTRPDLISEDVQRRFIQEV  
 VQSQAQAVSRQLEDFRSKRLMGMPWEQELSLLEPWIGKDRGNYEARERHVAERLLSHLEETQHTISTDE  
 EKSAAVVTAISLYMRHLGVRTKSGDKKSGRNFFRKKVMGNRRSDEPPKTKKGLSSILDPARWNRGEP  
 SAPDCRHLKVEADAEPKPADRKGGGLMSSRDRTVGTGQDNPVSLHPLSTDSVDSREPGVDTPQEPGDTTP  
 QGPTSLEPLAPPESTEDNGETESPEPGDDEPGRSGLELEPEEPPGWRELVPDPTLLSLPKSQVKRQEV  
 SELLVTEAAHVRLRVLHDLFYQPMADGGFFPLDELQNIIFPSLDELIEVHSLFLDRLMKRRQESGYLIEE  
 IGDVLLARFDGAEGSWFQKISSRFCSRQSFALQLKAKQRKEPRFCFVQEAESRPRCRRLLQKDMIPTE  
 MQRLLKYPLLLQSIGQNTTEESTERGKVELAAECCREILHHVNQAVRDMEDLLRLKDYQRRDLTLHRQSS  
 DPMLSEFKNLDIKKKLVEHGPTWRVTKDKAIEVHVLLLDLQLLQRQDERLLKSHSRTLTPTPDGK  
 TMLRPVRLTTSAMTREVATDHKAFYVIFTWQEAQIYELVAQTSERKNWCNLIETAGSLKVPAPASRL  
 KPRPSPSSIREPLLSSSENGTGAEMAPADARTERLLNDLLPFCRPGPEGQLAATALQKVLQKILLST  
 EEDSGAGPPRDGQVPGGRAPGPVHTQEIEENLLSLEVAIRQLEEEEFCLRLPILLSQLGGTLPNLA  
 PERSAQTGLS

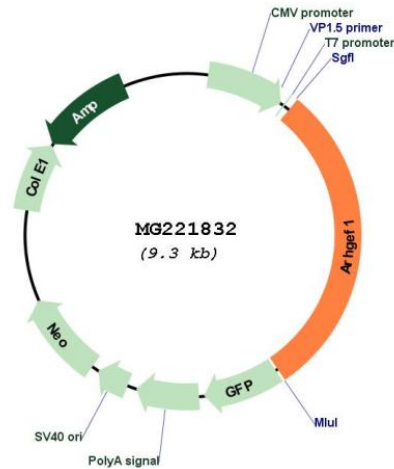
TRTRPLE – GFP Tag – V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**


**ACCN:** NM\_001130153

**ORF Size:** 2760 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\\_001130153.1](#), [NP\\_001123625.1](#)

**RefSeq Size:** 3273 bp

**RefSeq ORF:** 2763 bp

**Locus ID:** 16801

**UniProt ID:** [Q61210](#)

**Cytogenetics:** 7 A3

**Gene Summary:**

Seems to play a role in the regulation of RhoA GTPase by guanine nucleotide-binding alpha-12 (GNA12) and alpha-13 (GNA13) subunits. Acts as GTPase-activating protein (GAP) for GNA12 and GNA13, and as guanine nucleotide exchange factor (GEF) for RhoA GTPase. Activated G alpha 13/GNA13 stimulates the RhoGEF activity through interaction with the RGS-like domain. This GEF activity is inhibited by binding to activated GNA12. Mediates angiotensin-2-induced RhoA activation. Isoform 3 and isoform 4 do not homooligomerize and show an enhanced RhoGEF activity.[UniProtKB/Swiss-Prot Function]