

## Product datasheet for **MR219006**

### Arhgef12 (NM\_027144) Mouse Tagged ORF Clone

#### Product data:

|                           |                                          |
|---------------------------|------------------------------------------|
| Product Type:             | Expression Plasmids                      |
| Tag:                      | Myc-DDK                                  |
| Symbol:                   | Arhgef12                                 |
| Synonyms:                 | 2310014B11Rik; AU019857; Larg; mKIAA0382 |
| Mammalian Cell Selection: | Neomycin                                 |
| Vector:                   | pCMV6-Entry (PS100001)                   |
| E. coli Selection:        | Kanamycin (25 ug/mL)                     |

**ORF Nucleotide Sequence:** >MR219006 representing NM\_027144  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTGTGAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGAGTGGCACACAGTCTACTATCACGGACAGGTTTCCCCTCAAAAAACCTATAAGGCATGGAAGTATTT  
TGAACCGAGAGTCACCAACAGATAAGAAACAGAAAGTTGAACGCAGTTCATCGCATGATTTTGACCCAC  
AGATAGCTCCTCCAAGAAGACAAAGTCTAGTTTCAAGGAGAGTAGATCCGAGATCTATGGTCTTGTTTCA  
CGCTGTGTGATCATCCAGAAAGACGACAATGGCTTCGGGCTGACAGTCAGTGGAGACAATCCGGTCTTCG  
TACAATCTGTCAAAGAAGATGGAGCAGCCATGCGTGCTGGAGTACAAACAGGTGATCGAATCATCAAGGT  
GAATGGTACTCTGGTACTCATTCAAATCATCTGGAGGTGGTGAATAATCAGATCTGGTTCCTATGTA  
GCTCTCACTGTCCAGGGACGCCACCTGGTCCGCCAGATCCCACTTGCTGATTCTGAAGTAGAGCCAT  
CAGTCACTGGACATATGTCTCCCATATGACATCCCTCATTCCCTGGAGCAGCCGGAATATGGAGAG  
AATCACCAGTCCTGTGCTCGTGGGGAGGAAAACAATGTGGTCCATAACCAAGAAAGTAGAGATTCTGAGA  
AAGATGTTACAGAAGGAACAGGAACGGCTGCAGTTGCTGCAGGAAGATTACAACCGAACGGCTACCCAAA  
GATTGCTCAAGGAGATCCAGGAGGCCAAGAAGCACATCCCGCAGCTGCAGGAGCAGCTGTCCAAAGCCAC  
GGGCTCTGCTCAGGACGGAGCTGTAATTGCACCCTCCAGGCCATTAGGTGATGCCCTAACACTCAGTGAG  
GCAGAAGCAGATCCTGGAGATGGCCTGTGCAGGACTGACTGGAGCAGTGGAGATGCTTCTCGGCCAGTA  
GTGACAGTGTGATAGTCCCAAGAGTAGCCTGAGAGAAAGGAGTTACCTGGAGGAAGCCCCAGAGAGAAG  
TGAAGGAGTTCAGGACGCTCAGGAGCCGAGTCGCTGGTGGCAGTCCCTCCACCCGGGGCGCCCTCAC  
ATCATTGGAGCAGAGGATGATGATTTTGGTACTGAGCATGAGCAGATCAATGGACAGTGCAGCTGTTTCC  
AGAGCATTGAATTGCTGAAGTCTCGCCCTGCTCACTTGGCTGTTTTCTTACACCATGTAGTCTCACAGTT  
TGACCTGCAACATTGCTCTGTTATCTCTATTACAGACCTGTATAAGCAGACAACTCCAAGGAGACTCGG  
CGTGTCTTCTGGAGTTTATCAGTTCTTCTTGGACCGGTCTGCACACCTGAAGGTTCCAGTTCTCTGAGG  
AAATCTCCGTGGATCTAGAAAAGAGAAGACCTGAGCTTATTCCTGAGGATCTGCATCGCCTCTACATTCA  
GACAAATGCAGGAGAGAGTCCACCCTGAAGTTCAGAGGCATTGGAGGATTTCCGACAGAAACGCAGCATG  
GGGCTGACCTTGGCTGAGAGTGAAGTGAAGTAACTTGTATGCAGAGAGAGACAAGGACCGGGGAACCTCGG



AGAAGGAGCGAGCATGTGCGGAACAGATCGTTACCAAAATTGAAGAAGTGTGATGACTGCTCAGGCTGT  
AGAAGAAGAAAGGAGTTCCACAATGCAGTATGTAATTCTCATGTATATGAAGTATTTGGGAGTAAAAGTG  
AAAGAACCTCGAACTTGGAGCACAAGCGGGTCGGATCGGCTTCCTTCCAAGATCAAGCAAAGCATGA  
AGAAAGATAGAGAGGGCGAAGAAAAAGGGAAGCGAAGAGGATTCCCCAGCATTTTGGGACCCCCAAGAAG  
ACCAAGCCGCCACGACAACAGTGCAATTGGCAGGGCCATGGAGATACAGAAGTCACGCCACCCGAAGCAC  
TTATCCACTCCCTCGTCTGTGAGTCTGAGCCTCAGGACCCTGCCAAGTTGCGCCAGAGTGGAGTAGCCA  
ATGAAGGAACAGACACTGGATACCTGCCGCCAGTTCCATGTCCTCTGCCACCTCAGGGACTGCTCTTTC  
CCAAGAGGGAGGGAGAGAGAATGATACAGGAACAAAACAAGTGGGAGAAGCATCGGCCCTGGAGACTGC  
TTGGACAGCACACCTCGAGTCCCCACTACTGTTTTCGACTTCCCTCCTCTCTATTAGATCAAGTGCAGG  
AGGAGGAGTGTGAAGTAGAGAGGGTGGCAGAACATGGGACCCCAAAACCCTTTCGGAAGTTTGACAGCAT  
CGCCTTTGGAGAAAGTCAGAGTGAGGATGAGCAGTTTGAATGACCTGGAGACAGATCCACCCAAGTGG  
CAGCAGCTTGTAGCAGAGAAAGTGTACTGGGACTGAAACCTTCTGAGATCAAAAGACAGGAAGTGATTA  
ATGAATTGTTCTACACTGAGAGAGCTCATGTCCGACACTGAAGGTTCTTGACCAAGTATTCTATCAGCG  
AGTGTCCAGAGAAGGGATTCTATCACCTTCAGAACTACGCAAGATTTTTCAAACCTTGAAGATATCCTT  
CAACTTCATGTTGGTTGAATGAGCAAATGAAAGCTGTCCGAAAAAGGAATGAACTTCTGTTATTGATC  
ATATTGGGAAGATCTGCTCATCTGTTTGTAGTGACCAAGGAGAGGAGAAGCTGAAACATGCTGCTGCCAC  
ATTCTGCAGTAACCAACCTTTCGCCCTGGAATGATCAAGTCTCGCCAGAAAAAGGATTCTCGATTCCAT  
ACTTTTGTGAAGACGCTGAGAGTAACCCCTGTGCCGTGCTCTTCACTGAAGGACATCATTCCACCC  
AAATGCAGAGACTCACTAAGTACCCGCTTCTTTGGATAACATTGCCAAGTACACAGAATGGCCTCCAGA  
AAGGGAAAAGGTGAAGAAGGCTGCAGACCAATTGTCGTGAGATCTTAAATTATGTAATCAGGCTGTGAGG  
GAGGCAGAAAAACAAGCAGCGCTTAGAAGACTATCAGCGTCGCCTTGACACCTCCAATCTCAAGTTGTCCG  
AGTACCCAATGTTGACGAGCTCAGGAATTTGGATTTAACAAAAAGAAAGATGATTCATGAAGGGCCGTT  
GGTCTGGAAGGTGAATAGAGATAAAGCATCGATCTTTATACACTGCTGCTGGAAGACATCCTTGTGCTG  
CTACAGAAGCAGGATGACAGGCTGGTGCTAAGGTGCCACAGCAAGATTCTGGCATCCACAGCCGACAGCA  
AACACACCTTCAGCCCTGTCTAATAGCTGAGCAGGTGCTGGTTCCGGCAGGTGGCGACAGATAACAAAGC  
TTTATTCGTATCTCCATGTCAGATAATGGAGCCCAATTTATGAATTGGTAGCACAGACGGTTTCTGAA  
AAGACAGTCTGGCAAGACCTCATCTGTGCAATGGCTGCGTCAGTGAAGGAGCAGTCTACAAAGCCGATT  
CCCTCCACAGCCGCCACCTTTCGCAAGGAGACAATGATGAAGAAGAACCAGCCAAGTTAAAGTGGAGCA  
CCATGATCTTTCAGTCGTGGTCTGCAAGTCCAGACAGAGTTTTGGGATTAGAATCTCCCTTAATTTTCG  
TCAAAGCCTCAGTCTATTCACTGAATACCCCTGGCAAATCAGCGGCAGAACATCTCTTTGTGACCGCAA  
CACAGTTTGCAAAGGAACAGCATGCAAATGGGGCACTCAAGGAAGGTGATGGCGGGTATCCAGTCACAA  
CCCAGGTCCACACTTGCCTGTGTGACAGGAGCGGTGGGCATTGGACGCACTGAGAAAATTTGGGCTTGTTG  
AAGCAGTTGCTGGTACAGCAGTTAGGTCTCACCAGAGAAGTACTCAGGAAGACTGGCAGTCTCTCTCAC  
GATACGGGCCAGCTTCTGAAGAGGTACAGGCAGACAGTGGCATCCGGGACTTGGAAAATGTTAAGGCTTG  
TCATGCCAGGGAAGGACAGATGTCTTTAAACTGGAAGTGGTGATATTGCAACTTGTGACAGTCCACGG  
ACTTCAACTGAGTCTTGTGCTGCACAGGATTCAGTGATACTGGCATCCCAAGACAGCCAGGCAAGTAAAG  
TTTTAGTAATGGACCACATGATCCTGACCCAGAGATGCCTCTGCAGAGCCAGAAGGGGTCTGGATGA  
GAGTGGAGAGCACTTTTTGATGCCCGTAAGCACATAGTGATGATAATCCATCAGAAGGTGATGGAGCA  
GTTAAAAAGGAAGAGAAGGATGTTAATTTACGCATCTCAGGAACTGTTTGATCCTTGATGGCTATGATG  
CAGTTCAGGAGAGCTCCACAGATGAGGAGGTTGCCTCCTCGTTCCTCCCTGCAGCCTGTGACGGGCATCCC  
CGCTGTGGACTCCAGCCACCAGCAGCAACATTCCTCAGAAATGTGCATCCCGAGGGGCCGGTTTACCA  
TTCACCCAGAAATTCCTGGTCCAGCGGCACTGGCGAGCTATGGAGGATACCTGTTTTGAGATCCAGAGTC  
CCTCATGTACAGATTACAAAGCCAAATCCTGGAGTACATTATAAAATAGAGGCTGACCTGGAACACTT  
AAAGAAAGGTGGAGGAAAGTTACGCTCTTCTTGGCAAGGCTGGCTGGCTCAGCCCTCCCCGACAAGCTC  
TCAGATAAAAGT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR219006 representing NM\_027144

Red=Cloning site Green=Tags(s)

MSGTQSTITDRFPLKKPIRHGSILNRESPTDKKQKVERSSSHDFDPTDSSSKTKSSSEESRSEIYGLVQ  
RCVVIQKDDNGFGLTVSGDNPVFVQSVKEDGAAMRAGVQTGDRIIKVNGTLVTHSNHLEVVKLIRSGSYV  
ALT VQGRPPGSPQIPLADSEVEPSVTGHMSPIMTSPHSPGAAGNMERITSPVL VGEENNVVHNQKVEILR  
KMLQKEQERLQLLQEDYNRTATQRLLEIQEAKKHIPQLQEQLSKATGSAQDGA VIAPSRPLGDALTSE  
AEADPGDGLCRTDWSSGDASRPSSDSADSPKSSLRERSYLEEAPERSEGVQDAQEPQSLVGSPTRGAPH  
IIGAEDDDFGTEHEQINGQCSCFSQIELLKSRPAHLAVFLHHVVSQFDPATLLCYLYSDLYKQNTSKETR  
RVFLEFHQFFLDRAHLKVPVPEEISVDLEKRRPELIPEDLHRLYIQTMQERVHPEVQRHLED FRQKRSM  
GLTLAESELTKLDAERDKDRGTLERACAEQIVTKIEEVLMTAQAVEEERSSTMQYVILMYMKYLGVKV  
KEPRNLEHKRGRI GFLPKIKQSMKDDREGEKGRRGFPSILGPPRRPSRHDNSAIGRA MEIQKSRHPKH  
LSTPSSVSEPPQDPAKLRQSGVANEGDTGYLPASSMSATSGTALSQEGGRENDTGTKQVGEASAPGDC  
LDSTPRVPTTVDFPPLLDQVQEECEVERVAEHGTPKPFKFD SIAFGESQSEDEQFENDLETDPNNW  
QQLVSREVLLGLKPSEIKRQEVINELFYTERAHVRTLVLDQVFYQRVSRREGILSPSELRKIFSNLEDIL  
QLHVGLNEQKAVRKRNETSVIDHIGEDLLIWFSGPGEEKLKHAAATFCSNPFALEMIKSRQKKDSRFH  
TFVQDAESNPLCRRLQLKDIPTQMQLTKYPLLLDNI AKYTEWPPEREKVKKAADHCRQILNYYNQAVR  
EAENKQRL EDYQRRLDTSNLKSEYPNVDELRLNLDLTKRKMIEHGPLVWKVNRDKSIDLYTLLEDILVL  
LQKQDDRLVLRCHSKILASTADSKHTFSPVIKLVSTLVVRQVATDNKALFVISMSDNGAQIYELVAQT VSE  
KTVWQDLICRMAASVKEQSTKPIPLPQPPCEGDND EEPAKLKVEHDL SVAGLQSPDRVLGLESPLIS  
SKPQSHSLNTPGKSAAEHLFVTATQFAKEQHANGALKEGDGGYPVTIPGPHLPVSEERWALDALRNLGLL  
KQLLVQQLGLEKSTQEDWQFSRYGPASEEVQADSGIRDLENVKACHAREGQMSFKTGTGDIATCDSPR  
TSTESCAAQDSVILASQDSQASNVLMVDMHILTPEMPPAEPEGGLDES GEHFFDAREAHSDDNPS EGDGA  
VKKEEKDVNLRISGNCLILDGYDAVQESSDDEEVASSFPLQPVGTGIPAVDSSHQQQHSPQNVHPEGPVSP  
FTPEFLVQRHWRAMEDTCFEIQSPSCTDSQSQILEYIHKIEADLEHLKKVEESYALLCQRLAGSALPDKL  
SDKS

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

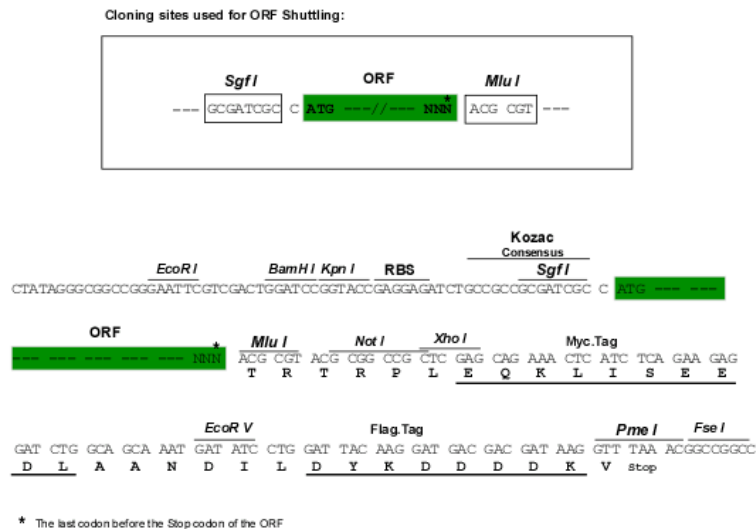
Chromatograms:

[https://cdn.origene.com/chromatograms/mm9102\\_c05.zip](https://cdn.origene.com/chromatograms/mm9102_c05.zip)

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

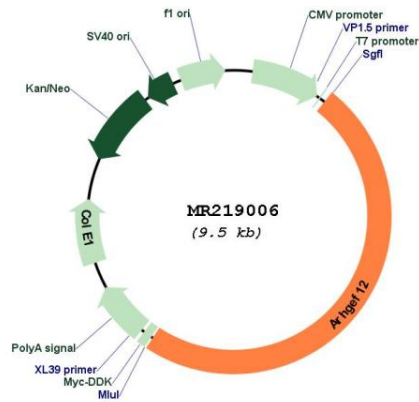


ACCN:

NM\_027144

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ORF Size:</b>              | 4632 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>OTI Disclaimer:</b>        | 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. <a href="#">More info</a>                                                                      |
| <b>OTI Annotation:</b>        | This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Components:</b>            | 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).                                                                                                                                                                                                                                                                                                                                    |
| <b>Reconstitution Method:</b> | <ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol> |
| <b>Note:</b>                  | Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>RefSeq:</b>                | <a href="#">NM_027144.2</a> , <a href="#">NP_081420.2</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>RefSeq Size:</b>           | 10483 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>RefSeq ORF:</b>            | 4635 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Locus ID:</b>              | 69632                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Cytogenetics:</b>          | 9 A5.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>MW:</b>                    | 172.5 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Gene Summary:</b>          | May play a role in the regulation of RhoA GTPase by guanine nucleotide-binding alpha-12 (GNA12) and alpha-13 (GNA13). Acts as guanine nucleotide exchange factor (GEF) for RhoA GTPase and may act as GTPase-activating protein (GAP) for GNA12 and GNA13 (By similarity). [UniProtKB/Swiss-Prot Function]                                                                                                                                                                                                              |

Product images:



Circular map for MR219006