

Product datasheet for **MC229221**

Arhgef2 (NM_001198912) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Arhgef2 (NM_001198912) Mouse Untagged Clone
Tag:	Tag Free
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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Fully Sequenced ORF: >MC229221 representing NM_001198912
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGAAGGAAGCTAAAGATGCCCCGTATACCAACGGCCACCTCTTACCACCATCTCGTCTCCGGCATGA
 CCATGTGCTATGCCTGTAAACAAGAGCATCACAGCCAAGGAAGCCCTCATTGTCTCATATGAACGTGAC
 CATCCACAACCGCTGTAAAGACACCCTGGCCAACGTACCAAGGTCAAGCAGAAGCAACAGAAAGCTGCA
 CTGCTGAGGAACAACACTGCTTTGCAGTCTGTCTCCCTTTCGAAGTAAAGACGACCACCAGAGAGCGGCCAA
 CGTCTGCCATTTACCCTTCGACAGCTTCGGCAGTCCCTCCTGGGTTCTCGGGGGGCCTCTCCTCCTT
 ATCTTTGGCCAAAAGTGTTCCTACTACCAACATTGCTGGACATTTCAATGATGAGTCTCCTCTGGGGCTG
 CGTCAGATCCTCTCCAGTCCACAGACTCCCTCAACATGCGGAACCGAACCTGTCCGTGGAATCCCTTA
 TTGATGAAGGTGTAGAAGTGTCTACAATGAGCTGATGAGCGACTTTGAGATGGATGAGAAGGACTTTGA
 GCGGATTCTTGGAGCCTTGCCGTGGACAGCAGCTTCTGCAGCAGCACAAAAAGGAAGTATGAAGAAG
 CAAGATGTCATCTATGAGCTGATCCAGACAGAGCTGCACCACGTGAGAACCTTGAAGATTATGACCCGCC
 TCTTTCGCACTGGGATGCTGGAAGAGTTGCAGATGGAGCCAGAAGTGGTCCAGGGCCTGTTCCCTCGCT
 GGATGAACTCAGTGACATTACACACGTTTCTTAATCAGCTTCTGGAACGGCGGCCAGGCTCTATGT
 CCAGGCAGCACCCGGAACCTTGTCCATCCATCGTTTGGGTGACTTGTCTCATCAGTCAGTTCTCAGTTCCA
 ATGCTGAGCAGATGCGCAAGACCTACTCAGAGTCTGCAGCCGCCACCAAGGCCTTAAAGCTCTATAA
 GGAGCTGTATGCTCGAGACAAACGCTTCCAACAGTTTATCCGGAAAATGACCCGCTCAGCTGTGTGAAG
 CGCGATGGAGTTCAGGAATGCATTTCTCTGGTACTCAGCGGATCACAAATACCCTGTGCTCATCAACA
 GAATCTGCAGAAATCCCACGGGTTGAAGAAGAGTACCAAGACTTGGCGTCAGCCCTAGGACTAGTGAA
 GGAGTTGTTGTCCAATGTGGACCAGGATGTGCAGGAGCTGGAGAAAAGAGGCCCGCCTGCAGGAGATTTAC
 AACCGAATGGATCCCGGGCTCAGACCCCGTACCTGGCAAGGGCCCTTCGGCCGAGATGAACTTTTAC
 GGAGAAAACCTTATCCATGAAGGCTGCCTGCTCTGGAAGACAGCCACAGGCCGCTTCAAAGATGTCCTGTT
 GCTGCTGATGACAGATGTGCTGTTTCTCCAGGAAAAGGACCAGAAAATACATTTTACGTCCTCTGGAC
 AAGCCCTCAGTGGTGTCTTGCAGAACCTCATCGTAAGAGACATAGCCAACCAGGCGAAAGGGATGTTTC
 TGATTAGTTCTGGACCGCTGAGATGTATGAGGTGCATGCAGCGTCCCGAGACGACCGGACTACCTGGAT
 CCGTGTATCCAGCAGAGTGTGCGCCTGTGCCGTCCAGGGAGGACTTTCCTCTGATCGAGACAGAGGAT
 AAGGCGTATCTCCGGAGGATCAAGACGAAACTGCAGCAGAAAAACAGGCGCTAGTGGAGCTGCTACAGA
 AGAATGTTGAGCTGTTTCCGAGATGGTCCACTTCCAGGCCTTAAAGGCTGGCTTCGTTGGAATGCCCC
 ACCCGCCTGCCAGGGGCTTTTCCGTCTTGAGTCTTTGAGTCCCTCCGAGGGCAGCGCTGCTAAAG
 GATGCCCTCCGTGAAGTGAAGGCTGAAAGACCTGCTGTTGGGCCATGTGTGGACCTGCCTATGACAT
 CCCGAGAACAGCCTTACCCTTGGACTCTGACAGCGGTAGCTGTCTGGGGTCACTGCCAATGGAGAGGC
 CAGAACCTTCAATGGCTCCATTGAACCTGTAGAGCAGACTCGGATTCAGCCAGAAGGATCGGAATGGA
 AATCAGTTGAGATCACACAGGAGGAGGTGTTACAGCCATTGATCAATCTTTATGGACTTCTACATGGCC
 TGCAGGCTGTTGTGTCCAGCAGGAAAGACTGATGGAAGCCCTGTTCCCTGAGGGCCCTGAACGGTGGGA
 AAAGCTATCCCGAGCCAACTCTCGGGATGGTGAAGCTGGCCGGGCTGCGGTTGCTTCTGTAACCTCTGAG
 AAGCAGGCCACGGAGCTGGCACTACTGCAGAGGCAACACACCCTGTTGCAGGAAGAGCTGCGGCGCTGCC
 AGCGGCTCGGGGAAGAGCGGGCAACTGAAGCTGGCAGCCTGGAGGCCAGGCTCCGAGAGAGCGAGCAAGC
 CCGGGCCCTGCTGGAGCGGGAGGCTGAAGAGATCCGCCGGCAGCTTGCAGCCTTGGGCCAAAACGAGCCA
 CTCCCGCAGAAAGCGCCCTGGGCTCGCAGGCTCTGGACCCAGGCGCCGAGCCTTCCAGCGGGCGAGC
 CTTTATACTTGAAGTCAATCCCCCAGCCAGTTCGAGGCCATGACCGCTGGATTTGCCTGTGACTGT
 TCGTTCCCTCCACCGACCCTTGTGATGACCGAGAGGCGCAAGAACTTGGTAGCCCCGAGGATCGACTACAG
 GACAGCAGTGACCCTGATACTGGTAGTGGAGGAAAGTCAAGTACCGCCTGTCTCCACCTCACAGTCTC
 GAGACTTACCCGAATGCAGGACATTCTGAAGAGACAGAAAGCCGAGATGGGGAGCCACAGCTTACAG
 GAGCTAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites:	Sgfl-Mlul
ACCN:	NM_001198912
Insert Size:	2877 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
OTI Annotation:	Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
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:	<ol style="list-style-type: none">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:	<u>NM_001198912.1</u> , <u>NP_001185841.1</u>
RefSeq Size:	4290 bp
RefSeq ORF:	2877 bp
Locus ID:	16800
UniProt ID:	<u>Q60875</u>
Cytogenetics:	3 F1

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 (3) has a different 5' UTR and uses a downstream in-frame translation initiation site, compared to variant 1. Variant 3 encodes a shorter protein (isoform 3), compared to isoform 1.