OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for RC204546

GEF H1 (ARHGEF2) (NM_004723) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GEF H1 (ARHGEF2) (NM_004723) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	GEF H1
Synonyms:	GEF; GEF-H1; GEFH1; Lfc; LFP40; NEDMHM; P40
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC204546 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAAGGAAGCCAAGGATGCCCGCTATACCAATGGGCACCTCTTCACCACCATTTCAGTTTCAGGCATGA
CCATGTGCTATGCCTGTAACAAGAGCATCACAGCCAAGGAAGCCCTCATCTGCCCAACCTGCAATGTGAC
TATCCACAACCGCTGTAAAGACACCCTCGCCAACTGTACCAAGGTCAAGCAGAAGCAACAGAAAGCGGCC
CTGCTGAAGAACAACACCGCCTTGCAGTCCGTTTCTCTTCGAAGTAAGACAACCATCCGGGAGCGGCCAA
GCTCGGCCATCTACCCCTCCGACAGCTTCCGGCAGTCCCTCCTGGGCTCCCGCCGTGGCCGCTCCTCCTT
GTCTTTAGCCAAGAGTGTTTCTACCACCAACATTGCTGGACATTTCAATGATGAGTCTCCCCTGGGGCTG
CGCCGGATCCTCTCACAGTCCACAGACTCCCTCAACATGCGGAACCGAACCCTATCCGTGGAATCCCTCA
TTGACGAAGCAGAGGTAATCTACAGTGAGCTGATGAGTGACTTTGAGATGGATGAGAAGGACTTTGCAGC
TGACTCTTGGAGTCTTGCTGTGGACAGCAGCTTCCTGCAGCAGCATAAAAAGGAGGTGATGAAGCAGCAA
GATGTCATCTATGAGCTAATCCAGACAGAGCTGCACCATGTGAGGACACTGAAGATCATGACCCGCCTCT
TCCGCACGGGGATGCTGGAAGAGCTACACTTGGAGCCAGGAGTGGTCCAGGGCCTGTTCCCCTGCGTGGA
CGAGCTCAGTGACATCCATACACGCTTCCTCAGCCAGCTATTAGAACGCCGACGCCAGGCCCTGTGCCCT
GGCAGCACCCGGAACTTTGTCATCCATCGCTTGGGTGATCTGCTCATCAGCCAGTTCTCAGGTCCTAGTG
CGGAGCAGATGTGTAAGACCTACTCGGAGTTCTGCAGCCGCCACAGCAAGGCCTTAAAGCTCTATAAGGA
GCTGTACGCCCGAGACAAACGCTTCCAGCAATTCATCCGGAAAGTGACCCGCCCCGCCGTGCTCAAGCGG
CACGGGGTACAGGAGTGCATCCTGCTGGTGACTCAGCGCATCACCAAGTACCCGTTACTCATCAGCCGCA
TCCTGCAGCATTCCCACGGGATCGAGGAGGAGCGCCAGGACCTGACCACAGCACTGGGGCTAGTGAAGGA
GCTGCTGTCCAATGTGGACGAGGGTATTTATCAGCTGGAGAAAGGGGCCCGTCTGCAGGAGATCTACAAC
CGCATGGACCCTCGGGCCCAAACCCCAGTGCCTGGCAAGGGCCCCTTTGGCCGAGAGGAACTTCTGAGGC
GCAAACTCATCCACGATGGCTGCCTGCTCTGGAAGACAGCGACGGGGCGCTTCAAAGATGTGCTAGTGCT
GCTGATGACAGATGTACTGGTGTTTCTCCAGGAAAAGGACCAGAAGTACATCTTTCCTACCCTGGACAAG
CCTTCAGTGGTATCGCTGCAGAATCTAATCGTACGAGACATTGCCAACCAGGAGAAAGGGATGTTTCTGA
TCAGCGCAGCCCCACCTGAGATGTACGAGGTGCACACAGCATCCCGGGATGACCGGAGCACCTGGATCCG
GGTCATTCAGCAGAGCGTGCGCACATGCCCATCCAGGGAGGACTTCCCCCTGATTGAGACAGAGGATGAG
GCTTACCTGCGGCGAATTAAGATGGAGTTGCAGCAGAAGGACCGGGCACTGGTGGAGCTGCTGCGAGAGA
AGGTCGGGCTGTTTGCTGAGATGACCCATTTCCAGGCCGAAGAGGATGGTGGCAGTGGGATGGCCCTGCC
CACCCTGCCCAGGGGCCTTTTCCGCTCTGAGTCCCTTGAGTCCCCTCGTGGCGAGCGGCTGCTGCAGGAT
GCCATCCGTGAGGTGGAGGGTCTGAAAGACCTGCTGGTGGGGCCAGGAGTGGAACTGCTCTTGACACCCC
GAGAGCCAGCCCTGCCCTTGGAACCAGACAGCGGTGGTAACACGAGTCCTGGGGTCACTGCCAATGGTGA
GGCCAGAACCTTCAATGGCTCCATTGAACTCTGCAGAGCTGACTCAGACTCTAGCCAGAGGGATCGAAAT
GGAAATCAGCTGAGATCACCGCAAGAGGAGGCGTTACAGCGATTGGTCAATCTCTATGGACTTCTACATG
GCCTACAGGCAGCTGTGGCCCAGCAGGACACTCTGATGGAAGCCCGGTTCCCTGAGGGCCCTGAGCGGCG
GGAGAAGCTGTGCCGAGCCAACTCTCGGGATGGGGAGGCTGGCAGGGCTGGGGCTGCCCCTGTGGCCCCT
GAAAAGCAGGCCACGGAACTGGCATTACTGCAGCGGCAACATGCGCTGCTGCAGGAGGAGCTACGGCGCT
GCCGGCGGCTAGGTGAAGAACGGGCAACCGAAGCTGGCAGCCTGGAGGCCCGGCTCCGGGAGAGTGAGCA
GGCCCGGGCACTGCTGGAGCGTGAGGCCGAAGAGGCTCGAAGGCAGCTGGCCGCCCTGGGCCAGACCGAG
CCACTCCCAGCTGAGGCCCCCTGGGCCCGCAGACCTGTGGATCCTCGGCGGCGCAGCCTCCCCGCAGGCG
ATGCCCTGTACTTGAGTTTCAACCCCCCACAGCCCAGCCGAGGCACTGACCGCCTGGATCTACCTGTCAC
TACTCGCTCTGTCCATCGAAACTTTGAGGACCGAGAGAGGCAGGAACTGGGGAGCCCCGAAGAGCGGCTG
CAAGACAGCAGTGACCCTGACACTGGCAGCGAGGAGGAAGGTAGCAGCCGTCTGTCTCCGCCCCACAGTC
CACGAGACTTTACCAGAATGCAGGACATCCCGGAGGAGACGGAGAGCCGCGACGGGGAGGCTGTAGCCTC
CGAGAGC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC204546 protein sequence
Red=Cloning site Green=Tags(s)

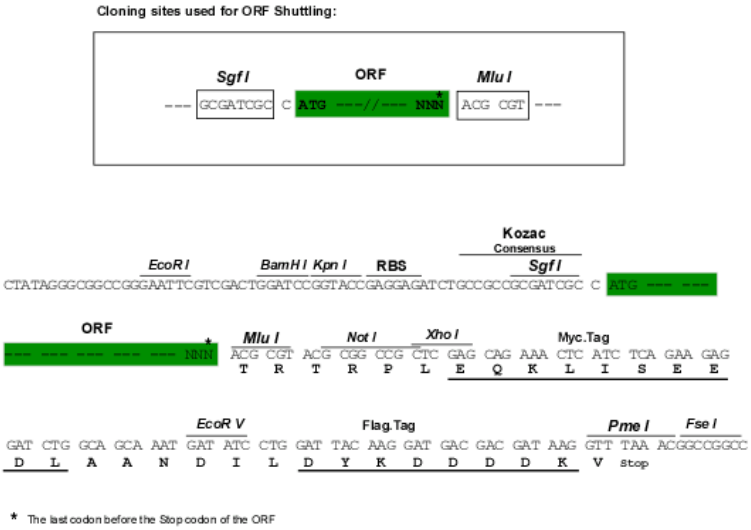
MKEAKDARYTNGHLFTTISVSGMTMCYACNKSITAKEALICPTCNVTIHNRCKDTLANCTKVKQKQQKAA
LLKNNTALQSVSLRSKTTIRERPSSAIYPSDSFRQSLLGSRRGRSSLSLAKSVSTTNIAGHFNDESPLGL
RRILSQSTDSLNMRNRTLSVESLIDEAEVIYSELMSDFEMDEKDFAADSWSLAVDSSFLQQHKKEVMKQQ
DVIYELIQTELHHVRTLKIMTRLFRTGMLEELHLEPGVVQGLFPCVDELSDIHTRFLSQLLERRRQALCP
GSTRNFVIHRLGDLLISQFSGPSAEQMCKTYSEFCSRHSKALKLYKELYARDKRFQQFIRKVTRPAVLKR
HGVQECILLVTQRITKYPLLISRILQHSHGIEEERQDLTTALGLVKELLSNVDEGIYQLEKGARLQEIYN
RMDPRAQTPVPGKGPFGREELLRRKLIHDGCLLWKTATGRFKDVLVLLMTDVLVFLQEKDQKYIFPTLDK
PSVVSLQNLIVRDIANQEKGMFLISAAPPEMYEVHTASRDDRSTWIRVIQQSVRTCPSREDFPLIETEDE
AYLRRIKMELQQKDRALVELLREKVGLFAEMTHFQAEEDGGSGMALPTLPRGLFRSESLESPRGERLLQD
AIREVEGLKDLLVGPGVELLLTPREPALPLEPDSGGNTSPGVTANGEARTFNGSIELCRADSDSSQRDRN
GNQLRSPQEEALQRLVNLYGLLHGLQAAVAQQDTLMEARFPEGPERREKLCRANSRDGEAGRAGAAPVAP
EKQATELALLQRQHALLQEELRRCRRLGEERATEAGSLEARLRESEQARALLEREAEEARRQLAALGQTE
PLPAEAPWARRPVDPRRRSLPAGDALYLSFNPPQPSRGTDRLDLPVTTRSVHRNFEDRERQELGSPEERL
QDSSDPDTGSEEEGSSRLSPPHSPRDFTRMQDIPEETESRDGEAVASES

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6229_b08.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

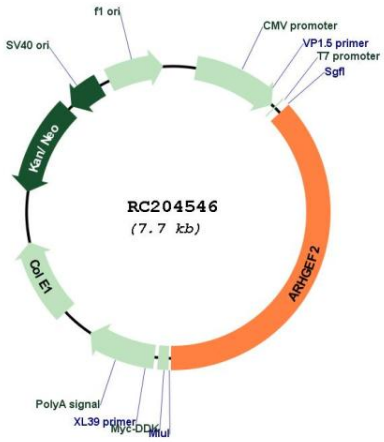


ACCN: NM_004723

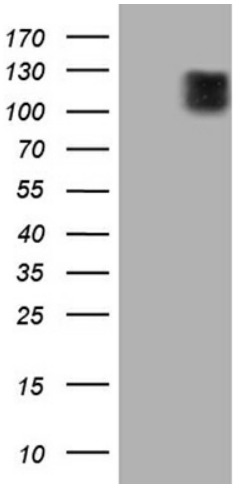
ORF Size: 2877 bp

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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_004723.3
RefSeq Size:	4119 bp
RefSeq ORF:	2877 bp
Locus ID:	9181
UniProt ID:	Q92974
Cytogenetics:	1q22
Domains:	RhoGEF, PH, DAG_PE-bind
Protein Families:	Druggable Genome
Protein Pathways:	Pathogenic Escherichia coli infection
MW:	108.3 kDa
Gene Summary:	Rho GTPases play a fundamental role in numerous cellular processes that are initiated by extracellular stimuli that work through G protein coupled receptors. The encoded protein may form complex with G proteins and stimulate rho-dependent signals. Alternatively spliced transcript variants encoding different isoforms have been identified.[provided by RefSeq, Jun 2009]

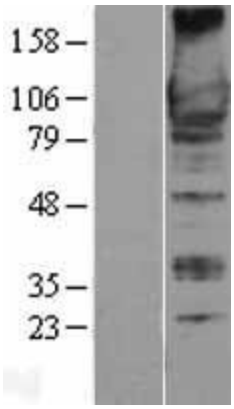
Product images:



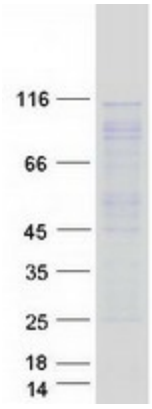
Circular map for RC204546



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ARHGEF2 (Cat# RC204546, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-ARHGEF2 (Cat# [TA809320])(1:2000). Positive lysates [LY417793] (100ug) and [LC417793] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY417793]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204546 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ARHGEF2 protein (Cat# [TP304546]). The protein was produced from HEK293T cells transfected with ARHGEF2 cDNA clone (Cat# RC204546) using MegaTran 2.0 (Cat# [TT210002]).