

Product datasheet for **RG221671**

GRF2 (RAPGEF1) (NM_005312) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GRF2 (RAPGEF1) (NM_005312) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	RAPGEF1
Synonyms:	C3G; GRF2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG221671 representing NM_005312 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGACACAGACTCTCAGCGTTCTCATCTCTTCTCCTTCACCATGAAGCTGATGGACAAATTCCA
CCAAAATCAAGAGAACGCCATCAAAGAAGGAAAACCAGCTGAGGTGTCCGTAAGATCCAGAGAAGCC
TGTGAACAAAGAGGCAACAGACAGATTTCTACCAGAGGGTACCTCTCCCCTTGGATCTGGAGCAGCAG
GCAGTAGAATTTATGTCCACCAGTGTGTGGCTCCAGGTCTCAAAGGCAGAAGAACCTGAGCTGGCTGG
AGGAGAAAAGAGAAGGAAGTTGTCAAGTCCCTGCGCTACTTTAAGACCATTGTGGACAAAATGGCAATTGA
TAAGAAGTACTGGAGATGCTTCCAGGGTCAGCCAGCAAGGTGCTGGAGGCCATCTTACCCTGGTGCAG
AACGATCCTCGAATTCAGCACAGCTCAGCCCTCTTCTCCTGCTATAGCCGAGTGTACCAAAGCCTCGCCA
ACCTCATTGCTGGTCTGACCAAGTGTGCTGGAAGGCGTGAAGTCAAGAGCAAGGAGATGGTACGACGAC
TGTGAAGGGGGTCAAGGCTGTGCTGGATGGAGTGAAGGAGCTGGTCAGGCTCACCATCGAGAAGCAG
GGACGTCCTGCTCCGACGAGCCCGTGAAGCCAGTTCCTGCCAGCAAGCCTGATGGCCAGCAGAGC
TCCCCCTGACAGACCGCAGGTAGAGATCCTAACAAGACGACTGGGATGTCACAGTCAACTGAGCTCCT
CCCAGATGCCACGGATGAAGAGGTGCGGCCCCCAAGCCTCCTCTGCCTGGCATTGGGTGGTTGATAAT
AGTCTCCACAGCATTGCCACCAAGAAAAGACAGTCGGCGCCGTCCTTACCCGAGTGGCTGTGGTGG
CCCCATGAGCCGAGCCACCAAGTGGCTCCAGTTTGCCTGTTGGAATCAATAGGCAGGATTTTGTGTTGA
CTGTTACGCACAGAGGCGACTGTGAGGAGCAGCCACTCATATGGTGGAGAGTCGCCCGCCTCTCCCCC
TGCAGCAGCATAGGCAAGCTCAGCAAGTCAAGCAGCAGCTGTCTCTTGGACAGGGACAGTGGGAGT
GCTCCCGGAACACAAGCTGTGAAACACTAGACCACTATGATCCCGACTATGAATTCCTCCAGCAAGACCT
CTTAACGCAGACCAGATACCTCAGCAGACGGCCTGGAACCTTAGCCGTTGCCAGAGTCTTTGGGGGAG
TCTGGGTCTCCATTTCTGGCCCTCCTTCCAGCTGCCTCTTGGCGCCATCCCCAGCCAGACGGACCTC
TGGCCCCAGGGCAGCAGACAGATACGCCACCTGCTCTCCCGAGAAGAAGCGCAGGAGCGCAGCCTCCCA
GACGGCGACGGCTCTGGCTGCAGGGTGTCTACGAGCGGCATCCCTCGCAGTATGACAACATCTCTGG



[View online »](#)

GAGGACCTGCAGAGCACAGCCCCGATCCCATCCGTCGCCCTACGCGCCCTTTGCTGCTATTCTGCCCTTTC
 AGCATGGAGGTTCTCAGCCCCTGTGCAATTTGTGGGTGATTTTACTGCTCCTGAGTCAACCGGTGACCC
 AGAAAAACCACCTCTCTACCAGAGAAGAAAAACAAACACATGCTGGCCTACATGCGATTGCTGGAGGAC
 TACTCGGAGCCGACGCCCTCTATGTTCTACCAGACGCCACAGAACGAGCAGCATCTACCAGCAGAAGAACA
 AGCTCCTCATGGAGGTATACGGCTTCAGCGACTCCTTCAGTGGGTGGACTCCGTGCAGGAGCTGGCCCC
 GCCGCCGCCCTACCCCCAAGCAGCGCGGAGCTGGAGCCACCGGCTGGGAAAGACGGACATCCCAGAGAT
 CCCTCAGCGGTACGCGGCTCCCTGGGAAAGGACAGCAGAGACGGCAGTGGAGGGCCCCAAAGTCAACCAG
 ATGCTCTGGAGTCGGCTCAGTCGGAGGAGGAAGTGGACGAGCTGTCCCTATTGACCACAACGAAATAT
 GTCAGGCTGACGCTCAAGCAGGAGGTGATGACGGGCCGGACGTCGCGGAGGATCTGGGGACATCTTA
 CTGGTCCATGCTACTGAGACTGACAGGAAAGATTTGGTGTGACTGCGAGGCATTCTGACCACCTACA
 GGACCTTCATCTCCCAGAGGAGCTCATCAAGAAGCTGCAGTACAGATATGAGAAATTTCTCCCTTTGC
 CGACACATTCAAGAAGCGCTCAGCAAGAACACGTTCTTCGTGCTGTTACGGGTGGTGGATGAGCTCTGC
 CTGGTGGAGTTGACAGAAGAGATCCTGAAGCTGCTGATGGAAGTGGTCTCCGCTGGTGTCAATGGGG
 AGCTGAGCCTGGCCGTGTGCTCCGGAAGAATCCTGGACAAGTGGACCAGAAGAAGCTACTCAGGTG
 TGCCACCTCCAGCCAGCCCTGGCAGCCCGGGGGTAGCAGCCAGCCGGGGACCTTGACGACTTTAC
 AGCCATGAGATAGCGGAGCAGCTAACGCTGCTGGATGCTGAGCTTTCTATAAAATAGAGATTCCTGAGG
 TTTTGCTTTGGCAAAAGAGCAGAATGAGGAGAAGAGCCCAACTTGACCAGTTACGGAGCACTTCAA
 CAACATGTCTACTGGTCCGGTCCATAATCATGTTACAGGAAAAGGCCAGGACAGGGAACGGTCTCTC
 TTGAAGTTCATCAAGATCATGAAGCACTTGCAGGAACTGAATAACTTCAACTCTACTTGGCCATCCTCT
 CTGCCCTGGACTCGGCGCCATCCGAGGCTGGAGTGGCAGAAGCAGACTTACAGGGCCTGGCCGAGTA
 CTGCACACTGATGACAGCTCGTCTCCTCCGAGCCTACCGGGCCGCTCTCGGAGGTGGAACCGCCG
 TGCATCCCGTACCTGGGCTGATCCTGCAGGACTGACCTTCGTTACCTGGGAAACCCAGACTACATCG
 ACGGAAAAGTGAACCTTCCAAGCGGTGGCAGCAGTTCAACATCCTCGACAGCATGCGCTGCTCCAGCA
 GGCGCATTGACATGCGGAGGAACGACGACATTATAAACTTCTCAATGACTTCAGTGACCACCTGGCT
 GAGGAGGCCCTATGGAACTGTCTCTGAAAATTAACCCAGGAACATAACAAGGAGAAAAACAGACCGGG
 AAGAGAAGACC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG221671 representing NM_005312

Red=Cloning site Green=Tags(s)

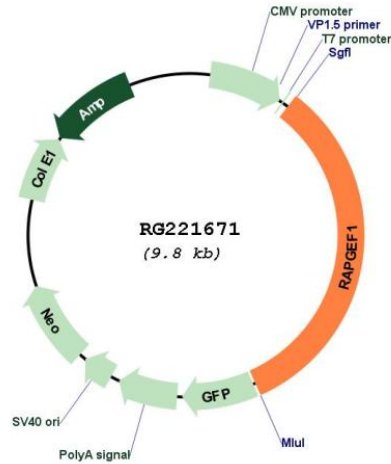
MDTDSQRSHLSSFTMKLMDKFHSPKIKRTPSKKPKPAEVSVKIPEKPVNKEATDRFLPEGYPLPLDLEQQ
 AVEFMSTSAVASRSRQKNLSWLEEKKEVVSALRYFKTIVDKMAIDKKVLEMLPGSASKVLEAILPLVQ
 NDPRIQHSSALSSCYSRVYQSLANLIRWSDQVMLEGVNSEDKEMVTTVKGVKAVLDGVKELVRLTIEKQ
 GRPSPTSPVKPSSPASKPDGPAELPLTDREVEILNKTTGMSQSTELLPDATDEEVAPPKPLPGIRVVDN
 SPPPALPPKKRQSAPSPTRVAVVAPMSRATSGSSLVPGINRQDFDVCYAQRRLSGGSHSYGGESPRLS
 CSSIGKLSKDEQLSSLDSDGQCSRNTSCETLDHYDPDYEFLLQDL SNADQIPQQTAWNLSPLPESLGE
 SGPFLGPPFQLPLGGHPQPDGPLAPGQQTDTPPALPEKRRSAASQTADGSGCRVSYERHPSQYDNI
 EDLQSTAPIPSVPYAPFAAILPFQHGSSAPVEFVGDFTAPESTGDPEKPPPLPEKKNKHLAYMQLLED
 YSEPPQSMFYQTPQNEHIYQKKNLLMEVYGFSDSFSGVDSVQELAPPPALPPKQRQLEPPAGKDGHP
 PSAVSGVPGKDSRDGSEAPKSPDALESAQSEEEVDELSLIDHNEIMSRLTLKQEGDDGPDVRGSGDIL
 LVHATETDRKDLVLYCEAFLTTYRTFISPEELIKKLQRYEKFSPFADTFKKRVSKNTFFVLVRVDEL
 LVELTEEILKLLMELVFRLVCNGELSLARVLRKNILDKVDQKLLRCATSSQPLAARGVAARPGTLHDFH
 SHEIAEQLTLLDAELFYKIEIPEVLLWAKEQNEEKSPNLQFTEHFNMSYWVRSIIMLQEKADRELL
 LKFIKIMKHLRKLNNFNSYLAILSALDSAPIRRLEWQKQTSGLAEYCTLIDSSSFRAARAALSEVEPP
 CIPYLGILQLDFVHLGNPDYIDGKVNFSKRWQQFNILDSMRCFQQAHYDMRRNDIINFNFNDFSDHLA
 EALWELSLKIKPRNITRRKTDREKT

TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:

Plasmid Map:


ACCN: NM_005312

ORF Size: 3231 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:	<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:	NM_005312.4
RefSeq Size:	6121 bp
RefSeq ORF:	3234 bp
Locus ID:	2889
UniProt ID:	Q13905
Cytogenetics:	9q34.13
Domains:	RasGEFN, RasGEF
Protein Families:	Druggable Genome
Protein Pathways:	Focal adhesion, Insulin signaling pathway, Neurotrophin signaling pathway, Renal cell carcinoma
Gene Summary:	This gene encodes a human guanine nucleotide exchange factor. It transduces signals from CRK by binding the SH3 domain of CRK, and activating several members of the Ras family of GTPases. This signaling cascade that may be involved in apoptosis, integrin-mediated signal transduction, and cell transformation. Several alternatively spliced transcript variants of this gene have been described, but the full-length nature of some variants has not been determined. [provided by RefSeq, Jul 2008]