

Product datasheet for **RG216040**

GARNL1 (RALGAPA1) (NM_014990) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GARNL1 (RALGAPA1) (NM_014990) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	RALGAPA1
Synonyms:	GARNL1; GRIPE; NEDHRIT; p240; RalGAPalpha1; TULIP1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG216040 representing NM_014990 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGTTCTCCAAGAAGCCGCACGGGGACGTGAAGAAGTCCACCCAGAAGGTGCTAGACACCAAGAAGGACG
CACTGACTCGCCTCAAGCACCTGCGCATCGTCAGAGAATGCAGAATCTATTGATCTTAAACAGTTTTT
CGACCAACATTTTTACATATACTATGTGTTCTTTGAAAATTTGTGACTATTGAAGCTAGTCTTAA
CAGAAAGGTCACAAGTCTCAAAGAGAGGAATTGGATGCTATACTTTTTATTTTTGAGAAAATTTACAAC
TTCTTCCAGAAAGAATTCATCAGCGATGGCAGTTTCATAGTATTGGATTGATTTTAAAGAAGCTACTTCA
CACAGGAAACTCCTTAAAGATTAGGCGGGAAGGTGTCGCTTTTTCTTACTATGGTTGCAAGCTCTTCAG
AATAACTGTAGCAAAGAACAGCTCTGGATGTTTTCATGCTTAATCCCTGGATTTTCAGCACCACAGTCTG
AACATGGACCTCGAECTTTAGATAATCTCATTAACTCCTCCACTCAACCTTCAAGAAACTCAAGTCACTAT
AGAAGAAATCACTCCTCTTGTCCTCCACAATCAGGAGATAAAGGGCAAGAAGATCTCACAAAGCTATTTT
CTTGAAGCACTTCTAAAATACATAGTCATTGAGTAAAAAGTTTGAAGTGAAGAACAAGAAAACCAAG
AAAGGGGATTTTCATTTTTGTTTTACATTTTAAAGAAATTAATCTGCTTATATTTTTCCAACATCTG
TAAGGAAAACAGTTTATATCATCTATACTTGACATCCCGCAGATGAGACCAAGCCACATTATGTCGTG
ATAAAGAAAGATGCTGAAACCAATGAAGCAATCTATTGTACAAAGGAGCCTTTTATTAAAGGCTCGTGTA
TTGTCATTGCTGGCTGGTTTTCTTTCTGGCTGGAGCCAAAACCATACAGGACCTCATATTTCTGGGAT
GGAAGGTGAAGTCTTGCCAAAGAATATTAGAGAGCAGCTGCTAGTTTAGTATCCAGAGAAGAAAAGCAAA
AATGATAATGCTGATAAAAACAGACAGAACTACAGAACCCGAACAGTCTCATTCCAATACAAGCACTCTCA
CGGAGCGAGAACCCTAGCTCATCTAGTCTGTAGTATTGATGAAGAACATCTCACAGACATTGAAATAGT
TCGAGAGTTTTTTCTTCTAAAAGGAGTAATGTAACCTTTGTGACAGAGATATTTTCGTCAGGCATTTTTA
TTACCAATTTGTGAAGCAGCAGCTATGAGAAAAGTGGTAAAAGTATATCAAGAATGGATCCAACAAGAGG
AAAAACCTTTGTCATGCAAGAGCCTGAAGAAATTTGTGATCACTTCTTCAGACCTCCCTTGCAATTGAAA
TGTACAGACCATGATATTTCAATGGAAGAAGGAGAAAAAAGAGAAGAGGAAAATGGGACCAATACTGCT



GATCATGTTTCGAAATCCAGTTGGGCAAAAAACGGCTCCTACCAAGGTGCTCTTCATAACGCCTCTGAAG
 AAGCCACAGAACAAAACATACGAGCTGGTACCCAGGCAGTTTTGCAGGTGTTATTATAAACTCATCAAA
 TATATTTCTTCTTGAACCTGCAATGAAATAAAAAATCTTCTGGATGAACACACAGATATGTGTAACGC
 ATTCCTAACATTTATCGGTACATGGTTGTACAAGTATCAATGGACAAAAAGACTTGGAACAGATGCTGC
 TTGTGTTGCTCAGAGTCACGGAATCTGTACTGAAGATGCCATCACAAGCTTTTCTACAGTTCCAAGGGAA
 AAAAAATATGACCTTGGCAGGTGCACTTGCAGGACCCTTTTCCAGACCCTTATAGTTGCCTGGATCAAA
 GCAAACCTAAATGTGTACATCTCCGAGAAGCTTTGGGATGACTTACTGTGACTTTGTGCTGCTGACCT
 ATTTGGGAAGAGTTGGCCACTGAGTGGTCACTGACTATGGAGACATTAAGTAAAGTTTAGCTAGGAATTT
 ATATAGTTTGGATCTCAGTGATTTACCATTGGATAAGCTGAGTGAACAGAAAAAAGCACAAGGG
 AAAGGAGTTGGACATGAATTTAGAAAGTTTCAAGTTGACAAGTCAATTTCTAGAGGATGGAGTCGTGATC
 AGCCTGGCCAAGCCCAATGAGACAGAGGAGTGAACAACCACTGGTTCTCCAGGAACCGAAAAGGCGAG
 GAGTATAGTACGGCAAAAACTGTCGATATTGATGATGCTCAAACTTCCCGCTCACTAGAGTCAGA
 CATTTTTACAAAGTGAAGAACTGGAATGAAGTTTTGGTGTGTTGAATGAGGAGCAGCCATTGCCTC
 GAAGTAGCAGCACTTCTGACATCTTGAACCATTCACTGTTGAACGAGCCAAAGTCAATAAAGAGGACAT
 GAGCCAAAACTGCCTCCTTAAATAGTGATATTGGCGGCAGCAGTGCTAATGTTCTGATCTGATGGAT
 GAGTTTATAGCAGAACGACTTCCAAGTGGTAATGCCTCGACTATGACAAGAGAGGAAGTCCAGGCA
 GCCTGGAATTTCCAAAGACCTCCCTGATATTCTAAACAAGCAGAACAGATGCGCCCTATTGATGACCC
 AGGTGTGCCCTCAGAATGGACTTCTCCTGCCAGTGCAGGGAGCAGTGATCTTATCAGCTCAGATAGTCAT
 TCGGATTTCTTACAGCGCTTCCAATATGATGGCCGAAAAATTTGACAATTTGGCTTTGGAACCGACTG
 GGGTTACGTCCTCTGCTGATGTGGATTCAAGTTCTGGCCATCATCAGAGTGTGAAGAGCAGGAAGTGGC
 TAGTCTAACTACTCTTATATAGATTCTGAAACAAGCAGTCTTAACTCAGCAAGCTTTCTCTGCTGAAGTT
 GCAACTATTACTGGTTCAGAAAGTGTCTCCAGTCCACTCACCTCTGGGCTCCAGTCCAGACTCCCTC
 CCCCTTACATTGAATATAGATCACATGGAACAGAGGATCTGCAGCTCGACGAGAAGCTCCACCCTC
 TGTTCTTACAGACCCAGATGATCTAGAAATTAGTGAATTTCCATCAGAATGTTGTAGTGTGATGGCAGGA
 GGTACTCTGACTGGATGGCATGCTGATGTTGCTACTGTAATGTGGCGAAGATGTAGGCATTTTGGGAG
 ATGTAATTTCAATCATGGATCCTGAAATACATGCTCAAGTTTTGATTACCTCTGTGAACCTTTGGCAGAA
 TCTAGCTAAGATTAGAGATAACCTTGGCATTTCAACTGATAACCTGACCTCCCCTTCTCCACCAGTTTTA
 ATTCTCCACTGAGAATCTTACACCTTGGCTTTTTAAGGCAACCATGTTGACTGATAAATAAACAAG
 GTAATTACATGCATATAAACTTATTTGTAATACAATGAAAAGAAGACAAGATGTTTCTCCAATAGAGA
 TTTTCTAACACATTTCTACAATATAATGCATTGTGGATTACTTCATATTGACCAGGATATTGTCAATACA
 ATCATCAAACACTGCTCACCTCAATTTTTTCACTTGGTTTGCCTGGTGCACAATGCTTATTATGGATT
 TTATTGTAGCAGCTGGTAGAGTGGCTTCTCAGCTTTTCTCAATGCACCAAGAGTAGAAGACAAGTTCT
 TCTGGGATCTTTGGTTGCTTTCCCAACTTATATTGTGAAGTGCCTTCTCTTATCCCAACATTCCTGAT
 GTTGCTGTGCTCAGTTTACAGATGTTAAGGAACTTATAATCAAACTGTATTAAGCTCGGCAAGAGATG
 AGCCCTCTGGTCTGCACGATGTGTAGCACTTTGTAGTTTAGGTATTTGGATTTGTGAAGAACTAGTCCA
 TGAGTCTCATCATCTCAAATTAAGGAAGCTCTGAATGTGATTTGTGTTTCTTAAAGTTTACTAATAAA
 ACAGTAGCCACGTAGCTTGAACATGCTTCACATGCTGGTTCATTATGTACCTAGACTTCAGATTTACC
 AGCCTGATTTCTCCTTGAATAATTCAATCCTAATAGCTACCATCACCCATCTTTTACCAAGTACAGA
 GGCTTCATCTTATGAAATGGACAAGAGGTTGGTAGTATCTTACTTCTCTGCCTTCTGGACTGGATCATG
 GCCTTACCTTAAAGACACTGCTCAACCATTTTCACTGCTACGGGAGCAGAAAGCGATAAAACAGAAAAAT
 CTGTTCTCAATTGCATTTATAAGGTTTTACATGGGTGTGTTTATGGAGCTCAGTGTGTTAGCAATCCAAG
 GTATTTTCCCATGAGCCTCTGATTTGGCATCTGTAGATTATGATCCTTTTATGCATTTGGAAAGTCTG
 AAAGAGCCTGAGCCTCTGCACTCTCCTGACTCAGAACGATCTTCTAACTCCAGCCAGTAACAGAAGTGA
 AAACCTCAAATGCAGCATGGATTAATCTCTATAGCAGCCCGCACTGTTATTACACATCTGGTAAATCACCT
 GGGCCATTATCCAATGAGCGGTGGTCTGCTATGCTAACAAAGTCAAGTGTGTGAAATCACGACAATCAT
 TACAGTAAAAGTACTGAACTTTCTCCTGAACTTTTGGAGTCCAATATCCAGTTCTTTGTGTTAATA
 ATACAACCTTAGTGCTGTATCCAGATCAGATCAGAAGAGAATATGCCTGGAGGAGTTTATCTGCTGG
 CCTTGATCAGCCAATTCAAATGTCAGAATCATAGTACGTGATCTCTCTGGAAAAATTCATGGGATTTCT
 GCTATACTGTATGGCCACCTCCTGTAAGTGGCTTGTGAGAACCTACATCTTTCATGCTTTTCATTGTCTC
 ACCAAGAGAAGCCAGAAGAGCCTCCGACATCTAATGAATGCTTAGAAGATATAACCGTAAAAGATGGACT
 TTCTCTCCAGTTTAAAAGATTTAGAGAACTGTACCAACTGGGATACAATAAGAGATGAAGAAGATGTT
 CTTGATGAGCTCTTGCAGTATTTGGGTGTTACTAGTCTGAATGCTTACAGAGAAGTGAATCTCACTTA

ATATTCCTGCTCCACAACCTGTGTGCATTTCTGAAAAACAAGAAAATGATGTTATTAATGCTATCCTTAA
 GCAACATACAGAAGAAAAAGAAATTTGTTGAGAAGCACTTAATGACTTAAACATGAAAGCTGTGGAACAA
 GATGAACCAATACCTCAAAAACCTCAGTCAGCATTTTATTATTGCAGATTGCTTCTTAGTATATTGGGAA
 TGAATTCCTGGGACAAACGGAGGAGCTTTCATCTCCTGAAGAAAAATGAAAGCTACTTAGAGAAGCTTAG
 GAACCTGGATTCAAGGCAGTGCCGAGAGACACACAAGATTGCAGTATTTTATGTTGCTGAAGGACAAGAA
 GACAAACACTCCATTCTACCAATACAGGAGGAAGTCAAGCATATGAAGATTTTGTAGCTGGTCTTGTT
 GGGAGGTAATCTTACAAACCTTGTGGTTTTATGGGAGGACTACAAAAACAAGCACTGGATTGAC
 CACTCCATATTTTGTACTCTACAGTAGAGGTAATATTTACGCTGTCAACAAGAATGCCTTCTGATTCT
 GATGATCTTTGACCAAAAAATTGAGACATTTGGGAAATGATGAAGTGCACATTGTTTGGTCAGAGCATA
 CTAGAGACTACAGGAGAGGAATTATCCACAGAATTTGGTGATGTCCTTATTGTAATATATCCAATGAA
 AAATCACATGTTCAAGTATTCAGATAATGAAAAACAGAGGTTCCCTTCTTTGGTCCCCTTTTGTGGT
 GCTATTGTGAATGAAAGGTTCTACCCATTATGGTTAGAGCAACAGCTATAAATGCAAGCCGTGCTCTGA
 AATCTCTGATTCCATTGTATCAAACTTCTATGAGGAGAGACGATACCTGCAACAATTGTCCAGCA
 CCACTTAGAACCAACAACATTTGAAGATTTGCAGCACAGGTTTTTCTCCAGCTCCCTACCACCATTTA
 CCATCTGATGCCGATCAT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG216040 representing NM_014990
 Red=Cloning site Green=Tags(s)

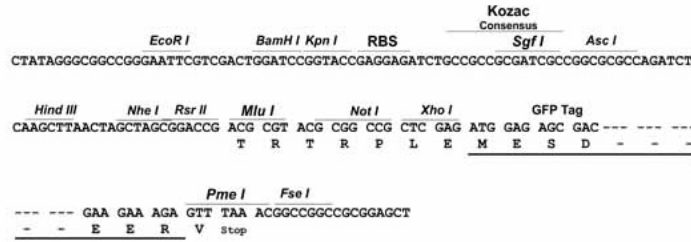
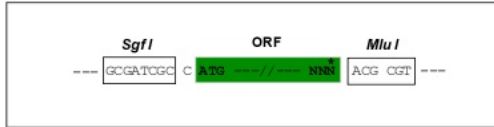
MFSKPKPHGDVKKSTQKVLDTKKDALTRLKHLRIVIENAESIDLKQFFDQHFSHIYYVFFENFVTIEASLK
 QKGHSQSREELDAILFIFEKILQLLPERIHQRWFHSIGLILKLLHTGNSLKIRREGVRLFLWLQALQ
 NNCSKEQLWMFSLIPGFSAPQSEHGPRTLNDLNPPLNLQETQVTIEEITPLVPPQSGDKGQEDLTSYF
 LEALLKYIVIQVKSLEWKNKENQERGFSLFHFYKYYLPYIFPNICKENSLYHPILDIPQMRPKPHYVV
 IKKDAETNEAIYCTKEPFIKARVIVIRWLVSWLEPKPHGPHIPGMEGEVLPKNIQRAAASLVSREESK
 NDNADKTDRTTEPEQSHSNTSTLTEREPSSSLCSIDEEHLTDIEIVRRVFSKRSNVNFVTEIFRQAF
 LPICEAAAMRKVVVYQEWIQEELKPLFMQEPPIVITSSDLPCIENVDHDI SMEEGKREEENGNTNTA
 DHVRNSSWAKNGSYQALHNASEEATEQNIRAGTQAVLQVFIINSSNIFLLEPANEIKNLLDEHTDMCKR
 ANLNVIYSRELWDDLSSLVSSLTYWEELATEWSLTMTLTKVLARNLYSLDLSDLPLDKLSEQKQKKHG
 KGVGHEFKQVSVSKSFRGWSRDPGQAPMRQRSATTTGSPGTEKARSIVRQKTVIDDAQILPRSTRVR
 HFSQSEETGNEVFGALNEEQPLPRSSSTSDILEPFTVERAKVNKEDMSQKLPPLNSDIGSSANVPDLM
 EFAERLRSGNASTMTRRGSSPGLSLEIPKDLPDILNKQNMRIIDDPGVSEWTSASAGSSDLISSDSH
 SDSFSAFYDGRKFDNFGFGTDTGVTSSADVDSGGHQSAAEQEVAASLTTLHIDSETSSLNQQAFSAEV
 ATITGSESASPVHSPGSRSTPSPSTLNIDHMEQKDLQDEKLHHSVLQTPDDLEISEFPSECCSVMAG
 GTLTGWHADVATVMWRRMLGILGDVNSIMDPEIHAQVFDYLCWQNLAKIRDNLGISTDNLTSPPVVL
 IPPLRILTPWLFKATMLTDKYKQKLAHAYKLICNTMKRRQDVSPNRDFLTHFYNIMHCGLLHIDQDIVNT
 IIKHCSPQFFSLGLPGATMLIMDFIVAAGRVAASFLNAPRVEAQVLLGSLVCFPNLYCELPSPHNPID
 VAVSQFTDVKELIIKTVLSSARDEPSGPARCVALCSLGIWICEELVHESHHPQIKEALNVICVSLKFTNK
 TVAHVACNMLHMLVHYVPRQLIYQPDSPKIIQILIIATITHLLPSTEASSYEMDKRLVVSLLCLLDWIM
 ALPLKTLQPFHATGAESDKTEKSVLNCIYKVLHGCYVGAQCFSNPRYFPMSSDLASVDYDPFMHLES
 KEPEPLHSPDSERSKLPVTEVKTQMQLHLSIAARTVITHLVNHLGHYPMSGGPAMLTSQVCENHDNH
 YSESTELSPLEFSPNIQFFVLNNTLVSICQIRSEENMPGGGLSAGLASANSNRIIVRDLSGKYSWDS
 AILYGGPPVSGLSEPTSFMLSLSHQEKPEEPPTSNECLEEDITVKDGLSLQFKRFRETVPWTDIRDEEDV
 LDELLQYLGVTSPECLQRTGISLNIAPQPVCISEKQENDVINAILKQHTEEKEFVEKHFNDLNMKAVEQ
 DEPIPQKQSAFYCRLLLSILGMNSWDKRRSFHLLKNEKLLRELRLNDSRQCRETHKIAVFYVAEQE
 DKHSILTNTGGSQAYEDFVAGLWEVNLTNHCGFMGGLQKNKSTGLTPYFATSTVEVIFHVSTRMPSDS
 DDSLTKKLRHLGNDEVHIVWSEHTRDYRRIIPTTEFGDVLIVIPMKNHMSIQIMKPEVPPFGPLFDG
 AIVNGKVLPIMVRATAINASRALKSLIPLYQNFYEERARYLQTIQVHHLEPTTFEDFAAQVSPAPYHHL
 PSDADH

TRTRPLE – GFP Tag – V

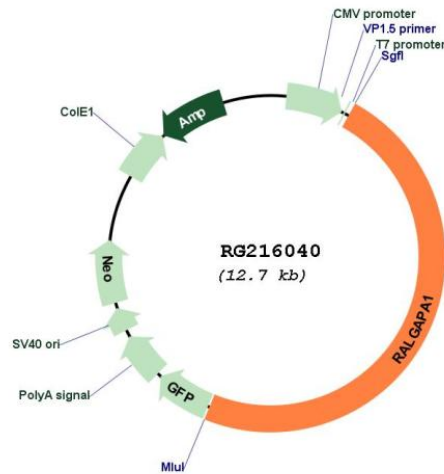
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_014990
 ORF Size: 6108 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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_014990.3](#)

RefSeq Size: 7882 bp

RefSeq ORF: 6111 bp

Locus ID: 253959

UniProt ID: [Q6GYQ0](#)

Cytogenetics: 14q13.2

Gene Summary: This gene encodes a major subunit of the RAL-GTPase activating protein. A similar protein in mouse binds E12, a transcriptional regulator of immunoglobulin genes. The mouse protein also functions in skeletal muscle by binding to the regulatory 14-3-3 proteins upon stimulation with insulin or muscle contraction. A pseudogene of this gene has been identified on chromosome 9. [provided by RefSeq, Oct 2016]