

## Product datasheet for **RG200935**

### LARP1 (NM\_015315) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	LARP1 (NM_015315) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	LARP1
Synonyms:	Lar1; LARP; Lhp1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG200935 representing NM_015315 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGCTTTGGAGGGTGCTTTTGTCAAAGAGGCCTCCTTTCCCTCACCCAGAGCTGGATTTCCAAGAGGCTC  
CCATACCTAGCTGCCCTGGCAGACTCCCAGGGAGGAAAAACAGCGTGGCCTTGGCAGCTGCCCGAGGAA  
GGAGCCACAGGTGACAGGGAGAAGCCATTGCCATTCCCTGTCTGGCCCCCTTCAGCAACCCTGAACAC  
TCTGCTCCAGCCAAGGTGGTGGGGCAGCTGTTCTAACAGCGCAAAGGCAGCAAGTTGGTGACTTTG  
GAGATGCAATCAATTGGCCACACCTGGAGAGATAGCCACAAGAGTGTTCAGCCACAGTCCCACAAGCC  
TCAGCCTACCCGTAACCTGCCACCAAGAAGGACATGAAGGAACAGGAGAAAGGAGAAGGGAGTGATAGT  
AAGGAGAGTCCAAAAACCAATCAGATGAATCAGGGGAGGAAAAGAAATGGAGATGAGGATTGCCAGCGAG  
GCGGGCAGAAGAAGAAAGGAAACAAACACAAGTGGGTTCCATTACAAATAGACATGAAGCCTGAAGTGCC  
CAGAGAGAAACTGGCTTACGCCCCACTCGCCACCGGAGCCTAGACACATACCTGCCAATCGCGGAGAG  
ATCAAAGGGTCTGAGTCTGCCACCTACGTGCCCGTGGCCCCCCCCACCCAGCCTGGCAACCAGAGATCA  
AACCGGAGCCTGCCTGGCAGCACCAGGATGAGACATCGAGTGTGAAGAGTGTGGGGCTGGTGGGGCGCG  
GGCTTCCCTCCGTGGCCGTGGACGGGGCGTGGTCCGCGCCGGGACGCGCCGGGTGGCACTCGAACC  
CATTTTGACTACCAAGTTGGCTACCGAAAGTTGATGGTGTGGAGGGCCCTCGTACGCCAAGTACATGA  
ACAACATCACCTACTACTTTGACAATGTCAGCAGCACCAGCTTTACAGTGTGGATCAGGAAGTGCCTCAA  
AGACTACATCAAGCGCCAGATTGAATACTACTTACAGCGTGGACAATTTAGAGCGAGACTTCTTCCCTGCGA  
AGGAAAATGGATGCTGATGGTTTCTACCCATCACCCATTATTGCTTCCCTCCACCGAGTGCAGGCCCTTA  
CCACTGACATTTCACTCATCTTTGCGGCCCTAAAGGACAGCAAGGTGGTGGAGATCGTTGATGAGAAAGT  
TCGTAGGAGGGAGGAACAGAAAAGTGGCCTTCCCCCAATAGTGGATTATTCACAGACTGATTCTCC  
CAGCTTCTCAACTGCCCTGAATTTGTTCCCGTCAGCACTACCAAAGGAGACAGAGTCCGACCTGGCT  
CTCCTCGTGCAGTACCCAGTCCCAACAAAACAGAGGAGTCCAGCAACCTAAAGACACTACCCAAGGG  
CCTGTCTGCCAGCCTGCCTGACCTGGATTCTGAGAAGTGGATTGAAGTGAAGAAGAGGCCTCGGCATCC



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CCAGCACGGCCCAAGAAGTCAGAGGAGTCCAGATTTTCCACCTGACCTCCCTGCCTCAGCAGCTGCCT  
 CCCAGCAGCTGATGTCCAAGGATCAGGATGAGCAAGAGGAACTGGATTTTCTGTTTGACGAGGAGATGGA  
 GCAGATGGATGGGCGGAAGAACACCTTCACTGCCTGGTCTGATGAGGAATCTGACTATGAGATTGATGAC  
 AGGGATGTCAACAAGATCCTCATTGTCAACCAGACACCACATTACATGCGCCGGCACCCAGGGGGGACC  
 GCACAGGCAACCACACCTCGCGTGCCAAGATGAGCGCCGAAGTGGCCAAGGTCATTAATGATGGCCTCTT  
 CTAATAAGCAGGACCTGTGGGCTGAAAAGTTGAACCTGAGTATTCCAGATCAAGCAAGAAGTCGAG  
 AACTTCAAAAAGGTCAATATGATCAGCCGGGAGCAGTTTGACACACTGACCCCTGAGCCCCCTGTGGATC  
 CCAACCAGGAAGTTCCTCTGGGCCACCTCGGTTCCAGCAAGTTCCTACGGATGCCCTGGCCAACAAGTT  
 GTTTGGTCTCCTGAGCCCTCCACCATCGCCCGCTCTCTACCAACCCTGTCACAGATCACAAACTAC  
 CGCAACACCAGGACCCCTCGCACTCCCCGGACACCACAGCTCAAAGACTCAAGCCAGACATCACGTTTTT  
 ACCCAGTGGTGAAGAAGGACGGACACTGGATGCCAAGATGCCTCGAAAAAGAAAGACAAGACACAGTTC  
 AAACCCACCTTGGAGAGCCATGTGGGCTGGGTGATGGATTCCCGTGAGCACAGGCCCGTACTGCTTCC  
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 TAGGCGCTGCCTAATGAGCGGAAACGCTTGGGCATTGGCCAGTCTCAGGAGATGAACACTCTTCCGC  
 TTCTGGTCTTCTTCTCCGAGATCACTTCAACAAAAAGATGATGAGGAGTTCAAGCAGCTGGCTCTGG  
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 GAAGTTCGGCTGGACATATTCAAGGATTTTCCAGGAGAAACGGTGAAGGACTATGAAGCTGGCCAACTG  
 TATGGGCTGGAGAAGTCTGGGCCTTCTGAAATATTCCAAGCCAAAAATTTGGACATTGACCCCAAC  
 TGCAAGAATACCTCGGCAAAATCCGACGCTTGAAGACTTCCGAGTAGATCCCCCATGGGTGAGGAGGG  
 CAACCACAAGCGACACTCAGTGGTAGCAGGAGGTGGCGGGGTGAGGGCAGGAAGCGGTGCCCTCCAG  
 TCTTCCAGCAGCCTGCTGCCATGATCAGCCAACCCCTACACCACCCACCGCCAGCCTGTCCGGGAAG  
 ATGCCAAATGGACAAGCCAGCACTCGAACACACAGACTTTGGGAAAG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>RG200935 representing NM\_015315  
 Red=Cloning site Green=Tags(s)

MLWRVLLSKRPPFPPELDFQEAPIPCPGRLPGRKNSVALAAAPRKEPTGDREKPLPFPVLAPFSNPEH  
 SAPAKVVRAAVPKQRKGSKVGDFGDAINWPTGEIAHKSVPQSHKPQPTRKLPKKDMKEQEKEGSDS  
 KESPKTKSDESGEENKGDQDQCGGQKKGKHKHWVPLQIDMKPEVPREKLASRPTRPPEPRHIPANRGE  
 IKGSESATYVPVAPPTPAWQPEIKPEPAWHDQDETSSVKSDGAGGARASFRGRGRGRGRGRGGTRT  
 HFDYQFGYRKFQDVEGPRTPKYMNNITYYFDNVSSTELYSVDQELLKDYIKRQIEYYFSDNLERDFFLR  
 RKMDADGFLPITLIASFHRVQALTTDISLIFAALKDSKVVEIVDEKVRREEPEKWPLPPIVDYSQTDFS  
 QLLNCFVPRQHYQKTESAPGSPRAVTPVPTKTEEVSNLKTLPKGLSASLPDLSENWIEVKKRPRPS  
 PARPKKSEESRFSHLTSLPQQLPSQQLMSKDQDEQEELDFLDEEME QMDGRKNTFTAWSDEESDYEIDD  
 RDVKNKILIVTQTPHYMRRHPGGDRGTGNHTSRAKMSAELAKVINDGLFYEQDLWAEKFEPEYSQIKQEVE  
 NFKKVNMI SREQFDLTPPEPVDPNQEVPPGPRFQVPTDALANKLFGAPEPSTIARSLPTTVPESPNY  
 RNTRTPRTPRTPQLKDSSQTSRFYVVKEGRTLDAKMPRKRKTRHSSNPPLSHVGVWMSREHRPRTAS  
 ISSSPSEGTPTVGSYGCTPQSLPKFQHPHELLKENGFTQHVYHKYRRRCLNERKRLGIGQSQEMNTLFR  
 FWSFFLRDHFNKKMYEEFKQLALEDAKEGYRYGLECLFRYYSYGLEKKFRLDIFKDFQEETVKDYEAGQL  
 YGLEKFWAFLKYSAKLNLDIDPKLQEYLKGFRRLEDFRVDPPMGEEGNHHRHSVAVGGGGEGRKRCPQS  
 SSSRPAAMISQPPTPPTGQPVREDAKWTQSHTNTQTLGK

TRTRPLE - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_015315

**ORF Size:** 3057 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.

**RefSeq:** [NM\\_015315.2](#)

**RefSeq Size:** 6644 bp

RefSeq ORF: 3060 bp

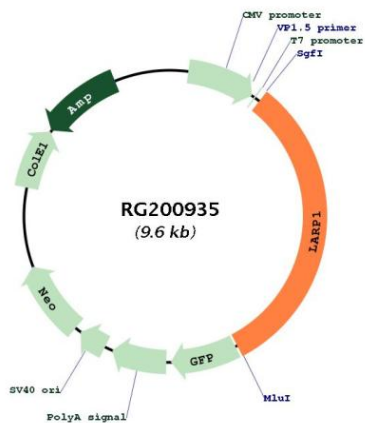
Locus ID: 23367

UniProt ID: [Q6PKG0](#)

Cytogenetics: 5q33.2

**Gene Summary:** RNA-binding protein that regulates the translation of specific target mRNA species downstream of the mTORC1 complex, in function of growth signals and nutrient availability (PubMed:20430826, PubMed:23711370, PubMed:24532714, PubMed:25940091, PubMed:28650797, PubMed:28673543, PubMed:29244122). Interacts on the one hand with the 3' poly-A tails that are present in all mRNA molecules, and on the other hand with the 7-methylguanosine cap structure of mRNAs containing a 5' terminal oligopyrimidine (5'TOP) motif, which is present in mRNAs encoding ribosomal proteins and several components of the translation machinery (PubMed:23711370, PubMed:25940091, PubMed:28650797, PubMed:29244122, PubMed:26206669, PubMed:28379136). The interaction with the 5' end of mRNAs containing a 5'TOP motif leads to translational repression by preventing the binding of EIF4G1 (PubMed:25940091, PubMed:28650797, PubMed:29244122, PubMed:28379136). When mTORC1 is activated, LARP1 is phosphorylated and dissociates from the 5' untranslated region (UTR) of mRNA (PubMed:25940091, PubMed:28650797). Does not prevent binding of EIF4G1 to mRNAs that lack a 5'TOP motif (PubMed:28379136). Interacts with the free 40S ribosome subunit and with ribosomes, both monosomes and polysomes (PubMed:20430826, PubMed:24532714, PubMed:25940091, PubMed:28673543). Under normal nutrient availability, interacts primarily with the 3' untranslated region (UTR) of mRNAs encoding ribosomal proteins and increases protein synthesis (PubMed:23711370, PubMed:28650797). Associates with actively translating ribosomes and stimulates translation of mRNAs containing a 5'TOP motif, thereby regulating protein synthesis, and as a consequence, cell growth and proliferation (PubMed:20430826, PubMed:24532714). Stabilizes mRNAs species with a 5'TOP motif, which is required to prevent apoptosis (PubMed:20430826, PubMed:23711370, PubMed:25940091, PubMed:28673543).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RG200935