

Product datasheet for **RC200935**

LARP1 (NM_015315) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	LARP1 (NM_015315) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	LARP1
Synonyms:	Lar1; LARP; Lhp1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC200935 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCTTTGGAGGGTGCTTTTGTCAAAGAGGCCTCCTTTCCCTCAGGAGCTGGATTTCCAAGAGGCTC
CCATACCTAGCTGCCCTGGCAGACTCCCAGGGAGGAAAAACAGCGTGGCCTTGGCAGCTGCCCGAGGAA
GGAGCCCAAGGTGACAGGGAGAAGCCATTGCCATTCCCTGTCTGGCCCCCTTCAGCAACCCTGAACAC
TCTGCTCCAGCAAGGTGGTGGGGCAGCTGTTCTAACAGCGCAAAGGCAGCAAGGTTGGTGACTTTG
GAGATGCAATCAATTGGCCACACCTGGAGAGATAGCCCAAGAGTGTTAGCCACAGTCCCAAGCC
TCAGCCTACCCGTAACTGCCACCAAGAAGGACATGAAGGAACAGGAGAAAGGAGAAGGGAGTGATAGT
AAGGAGAGTCCAAAAACCAATCAGATGAATCAGGGGAGGAAAAGATGGAGATGAGGATTGCCAGCGAG
GCGGGCAGAAGAAGAAAGGAAACAAACACAAGTGGGTTCCATTACAAATAGACATGAAGCCTGAAGTGCC
CAGAGAGAACTGGCTTCACGCCCCACTCGCCACCGAGCCTAGACACATACCTGCCAATCGCGGAGAG
ATCAAAGGCTGAGTCTGCCACCTACGTGCGCGTGGCCCCCCCCACCCAGCCTGGCAACCAGAGATCA
AACCGAGCCTGCCTGGCAGCAGCAGGATGAGACATCGAGTGTGAAGAGTGATGGGGCTGGTGGGGCGCG
GGCTTCCTTCCGTGGCCGTGGACGGGGCGTGGTGGCGCCGGGACGCGGCCGGGTGGCACTCGAACC
CATTTTGACTACCACTTTGGCTACCGAAAGTTGATGGTGTGGAGGGGCTCGTACGCCCAAGTACATGA
ACAACATCACCTACTACTTTGACAATGTCAGCAGCAGCAGCTTTACAGTGTGGATCAGGAATGCTCAA
AGACTACATCAAGCGCCAGATTGAATACTACTTCAGCGTGGACAATTTAGAGCGAGACTTCTTCTGCGA
AGGAAAATGGATGCTGATGGTTTCTACCATCACCTTATTGCTTCTTCCACCGAGTGAGGCCCTTA
CCACTGACATTTCACTCATCTTTGCGGCCCTAAAGGACAGCAAGGTGGTGGAGATCGTTGATGAGAAAGT
TCGTAGGAGGGAGGAACAGAAAAGTGGCCTCTTCCCCAATAGTGGATTATTCAGAGCTGATTCTCC
CAGCTTCTCACTGCCCTGAATTTGTTCCCGTCAGCACTACCAAAGGAGACAGAGTCGGCACCTGGCT
CTCCTCGTGCAGTACCCAGTGCCAACCAAAACAGAGGAGTCAAGCACTAAAGACACTACCAAGGG
CCTGTCTGCCAGCCTGCCTGACCTGGATTCTGAGAACTGGATTGAAGTGAAGAAGAGGCCTCGGCCATCC



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CCAGCACGGCCCAAGAAGTCAGAGGAGTCCAGATTTTCCACCTGACCTCCCTGCCTCAGCAGCTGCCT
 CCCAGCAGCTGATGTCCAAGGATCAGGATGAGCAAGAGGAAGTGGATTTTCTGTTTGACGAGGAGATGGA
 GCAGATGGATGGGCGGAAGAACACCTTCACTGCCTGGTCTGATGAGGAATCTGACTATGAGATTGATGAC
 AGGGATGTCAACAAGATCCTCATTGTCACCAGACACCACATTACATGCGCCGGCACCCAGGGGGGACC
 GCACAGGCAACCACACCTCGCGTGCCAGATGAGCGCCGAAGTGGCCAAGGTCTTAATGATGGCCTCTT
 CTACTATGAGCAGGACCTGTGGGCTGAAAAGTTGAACCTGAGTATTCCAGATCAAGCAAGAAGTCGAG
 AACTTCAAAAAGGTCAATATGATCAGCGGGGAGCAGTTTGACACACTGACCCCTGAGCCCCCTGTGGATC
 CCAACCGGAAGTTCCTCCTGGGCCACCTCGGTTCCAGCAAGTTCCTACGGATGCCCTGGCCAACAAGTT
 GTTTGGTGCTCCTGAGCCCTCCACCATCGCCGCTCTCTACCAACCACTGTCCCAGAGTACCAAACTAC
 CGCAACACCAGGACCCCTCGCACTCCCCGGACACCACAGCTCAAAGACTCAAGCCAGACATCACGGTTTT
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 GAAGTTCGGCTGGACATATTCAAGGATTTTCAGGAGGAAACGGTGAAGGACTATGAAGCTGGCCAACTG
 TATGGGCTGGAGAAGTTCGGGCTTCTTGAATATTCCAAAGCCAAAAATTTGGACATTGACCCCAAC
 TGCAAGAATACCTCGGCAAAATCCGACGCTTGAAGACTTCCGAGTAGATCCCCCATGGGTGAGGAGGG
 CAACCACAAGCGACACTCAGTGGTAGCAGGAGGTGGCGGCGTGAGGGCAGGAAGCGGTGCCCTCCAG
 TCTTCCAGCAGGCTGCTGCCATGATCAGCCAACCCCTACACCACCCACCGGCCAGCCTGTCCGGGAAG
 ATGCCAAATGGACAAGCCAGCACTCGAACACACAGACTTTGGGAAAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC200935 protein sequence
 Red=Cloning site Green=Tags(s)

MLWRVLLSKRPPFPHELDQFEAPIPSCPGRLPGRKNSVALAAAPRKEPTGDREKPLPFPVLAPFSNPEH
 SAPAKVYRAAVPKQRKGSKVGDGDAINWPTPGEIAHKSVPQSHKPQPTRKLPKPKDMKEQKEGEGSDS
 KESPKTKSDESGEEKNGDEDCQGGQKKKGKHKWVPLQIDMKPEVPREKLASRPTRPPEPRHIPANRGE
 IKGSESATYVPVAPPTPAWQPEIKPEPAWHDQDETSSVKSDGAGGARASFRGRGRGRGRGRGRGGTRT
 HFDYQFGYRKFDGVEGPRTPKYMNNITYYFDNVSSTELYSVDQELLKDYIKRQIEYYFSVDNLERDFFLR
 RKMDADGFLPITLIASFHRVQALTTDISLIFAALKDSKVVEIVDEKVRREEPEKWPLPPIVDYSQTDFS
 QLLNCPFVPRQHYQKETESAPGSPRAVTPVPTKTEEVSNLKTLPKGLSASLPDLSENWIEVKRPRPS
 PARPKKSEESRFSLTSLPQQLPSQQLMSKDQDEQEELDFLDEEMEQMDGRKNTFTAWSDEESDYEIDD
 RDVNLILIVTQTPHYMRHPGGDRTGNHTSRAKMSAELAKVINDGLFYEQDLWAEKFEPEYSQIKQEVE
 NFKKVNMIISREQFDLTPEPPVDPNQEVPVPPGPPRFQVPTDALANKLFGAPEPSTIARSLPTTVPESPNY
 RNTRTPRTPRTPQLKDSSQTSRFYPVVKEGRTLDAKMPKRKRTRHSSNPPLSHVGMVMSREHRPRTAS
 ISSSPSEGTPTVGSYGCTPQSLPKFQHPSELLKENGFTQHVYHKYRRRCLNERKRLGIGQSQEMNTLFR
 FWSFFLRDHFNKKMYEEFKQLALEDAKEGYRYGLECLFRYYSYGLEKKFRLDIFKDFQEETVKDYEAGQL
 YGLEKFWAFLKYSKAKNLDIDPKLQEYLGKFRLEDVFRVPPMGEEGNHHRHSVAVGGGGEGGRKRCPSQ
 SSSRPAAMISQPPTPPTGQPVREDAKWTQSHTNTQTLGK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6680_c10.zip

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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_015315.2](#)

RefSeq Size: 6607 bp

RefSeq ORF: 3060 bp

Locus ID: 23367

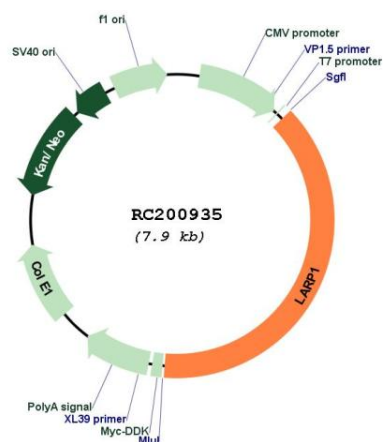
UniProt ID: [Q6PKG0](#)

Cytogenetics: 5q33.2

MW: 116.5 kDa

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 RC200935