

## Product datasheet for **SC321557**

### LARP1 (NM\_015315) Human Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** LARP1 (NM\_015315) Human Untagged Clone  
**Tag:** Tag Free  
**Symbol:** LARP1  
**Synonyms:** Lar1; LARP; Lhp1  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC (PS100020)  
**E. coli Selection:** Ampicillin (100 ug/mL)

**Fully Sequenced ORF:** >OriGene sequence for NM\_015315.3  
 GTGACCCAGGCCCTGGTCACTCCATGCTTTGGAGGGTGCTTTTGTCAAAGAGGCCCTCCT  
 TTCCTCACCCAGAGCTGGATTTCGAAGAGGCTCCCATACCTAGCTGCCCTGGCAGACTC  
 CCAGGGAGGAAAAACAGCGTGGCCTTGGCAGCTGCCCGAGGAAGGAGCCACAGGTGAC  
 AGGGAGAAGCCATTGCCATTCCCTGTCTGGCCCCCTTCAGCAACCCCTGAACACTGTCT  
 CCAGCCAAGGTGGTGGGGCAGCTGTTCTAAACAGCGCAAAGGCAGCAAGGTTGGTGAC  
 TTTGGAGATGCAATCAATTGGCCACACCTGGAGAGATAGCCACAAGAGTGTTCAAGCA  
 CAGTCCCACAAGCCTCAGCCTACCCGTAACCTGCCACCCAAGAAGGACATGAAGGAACAG  
 GAGAAAGGAGAAGGGAGTGATAGTAAGGAGAGTCCAAAAACCAATCAGATGAATCAGGG  
 GAGGAAAAGAATGGAGATGAGGATTGCCAGCGAGCGGGCAGAAGAAGAAAGGAAACAAA  
 CACAAGTGGGTTCCATTACAAATAGACATGAAGCCTGAAGTGCCAGAGAGAAACTGGCT  
 TCACGCCCCACTCGCCACCGGAGCCTAGACACATACCTGCCAATCGCGGAGAGATCAAA  
 GGGTCTGAGTCTGCCACCTACGTGCCCGTGGCCCCCCCCACCCAGCCTGGCAACCAGAG  
 ATCAAACCGGAGCCTGCCTGGCAGCAGCAGGATGAGACATCGAGTGTGAAGAGTGATGGG  
 GCTGGTGGGGCGCGGGCTTCCTTCCTGGCCGTGGACGGGGCGTGGTCGCGGCCGGGA  
 CGCGGCCGGGGTGGCACTCGAACCCATTTGACTACCAGTTTGGTACCAGAAAGTTTGT  
 GGTGTGGAGGGGCTCGTACGCCAAGTACATGAACAACATCACCTACTACTTTGACAAT  
 GTCAGCAGCACCAGCTTTACAGTGTGGATCAGGAAGTCTCAAAGACTACATCAAGCGC  
 CAGATTGAATACTACTTCAGCGTGGACAATTTAGAGCGAGACTTCTTCTGCGAAGGAAA  
 ATGGATGCTGATGGTTTCTACCCATCACCTTATTGTTCTTCCCTTCCACCGAGTGCAGGCC  
 CTTACCACTGACATTTCACTCATCTTTGCGGCCCTAAAGGACAGCAAGGTGGTGGAGATC  
 GTTGATGAGAAAGTTCGTAGGAGGGAGGAACCAGAAAAGTGGCCTCTTCCCCAATAGTG  
 GATTATTCACAGACTGATTTCTCCAGCTTCTCAACTGCCCTGAATTTGTTCCCCGTGAG  
 CACTACAAAAGGAGACAGAGTCGGCACCTGGCTCTCCTCGTGCAGTCACCCAGTGCCA  
 ACCAAAACAGAGGAGTTCAGCAACCTAAAGACTACTCCAAGGGCCTGTCTGCCAGCCTG  
 CCTGACCTGGATTCTGAGAACTGGATTGAAGTGAAGAAGAGGCCCTCGGCCATCCCCAGCA  
 CGGCCCAAGAAGTCAGAGGAGTCCAGATTTTCCACCTGACCTCCCTGCCTCAGCAGCTG



[View online »](#)

```

CCTTCCCAGCAGCTGATGTCCAAGGATCAGGATGAGCAAGAGGAAGTGGATTTTCTGTTT
GACGAGGAGATGGAGCAGATGGATGGGCGGAAGAACACCTTCACTGCCTGGTCTGATGAG
GAATCTGACTATGAGATTGATGACAGGGATGTCAACAAGATCCTCATTGTCACCCAGACA
CCACATTACATGCGCCGGCACCCAGGGGGGACCCGACAGGCAACCACACCTCGCGTGCC
AAGATGAGCGCGAACTGGCCAAGGTCATTAATGATGGCTCTTCTACTATGAGCAGGAC
CTGTGGGCTGAAAAGTTGAACCTGAGTATCCAGATCAAGCAAGAAGTCGAGAAGTTC
AAAAAGTCAATATGATCAGCCGGGAGCAGTTTGACACACTGACCCCTGAGCCCCCTGTG
GATCCCAACCAGGAAGTTCCTCCTGGGCCACCTCGGTTCCAGCAAGTTCCTACGGATGCC
CTGGCCAACAAGTTGTTTGGTGCTCCTGAGCCCTCCACCATCGCCCGCTCTCTACCAACC
ACTGTCCCAGAGTCACCAAACACTACCGCAACACCAGGACCCCTCGCACTCCCCGGACACCA
CAGCTCAAAGACTCAAGCCAGACATCACGGTTTTACCCAGTGGTAAAAGAAGGACGGACA
CTGGATGCCAAGATGCCTCGAAAAAGAAAGACAAGACACAGTTCAAACCCACCCCTGGAG
AGCCATGTGGGCTGGGTGATGGATTCCCGTGAGCACAGGCCCGTACTGTTCCATCAGC
TCCAGCCCCTCAGAAGGGACGCCACAGTTGGCAGCTATGGCTGTACCCCTCAGTCATTG
CCCAAGTTCAGCATCCTTCCCATGAAGTCTCAAGGAAAATGGCTTACACAACACGTC
TACCATAAGTATCGTAGGCGCTGCCTAATGAGCGGAAACGCTTGGGCATTGGCCAGTCT
CAGGAGATGAACACACTTTCGGCTTCTGGTCTTCTTCTCCGAGATCACTTCAACAAA
AAGATGTATGAGGAGTCAAGCAGCTGGCTCTGGAGGACGCCAAAGAAGGCTACAGATAT
GGTTTGGAGTGCCTTTTCGATACTACAGTTATGGCCTGGAAAAGAAGTTCGGCTGGAC
ATATTCAGGATTTTCAGGAGGAAACGGTGAAGGACTATGAAGCTGGCCAAGTGTATGGG
CTGGAGAAGTTCGGCCTTCTTGAAATATTCAAAGCCAAAAATTTGGACATTGACCCC
AAACTGCAAGAAATACCTCGGCAAATTCGACGTCTTGAAGACTCCGAGTAGATCCCCC
ATGGGTGAGGAGGGCAACCACAAGCGACACTCAGTGGTAGCAGGAGGTGGCGGCGTGAG
GGCAGGAAGCGGTGCCCTCCCAGTCTTCCAGCAGGCCCTGCTGCCATGATCAGCCAACCC
CCTACACCACCCACCGGCCAGCCTGTCCGGGAAGATGCCAAATGGACAAGCCAGCACTCG
AACACACAGACTTTGGGAAAGTGAAGGCTCCTTAGCCCTGGGGCTTGAGGGGGGAAAGG
GGTAGGGTGGGTAAAGAGTCCATGGGGTGCCAGTCCCAGGAGAGGGGACAATGAAGGA
CAGGCCTGGAGTTACTAGGACAGGCCTTGTGCTGAGTAGCAATGTATACACATTTGGG
CTATCAGAGGTACCCCTGGGCAGGAGCCTCTACATCCCCTTCCCCTCCTCTCCATGA
CTCTTGACATCCTAGCTTCTTCTAAGGGGGGAGGAAAGGGGGGAGATTTTTATATATAT
ATACATATATATATCAAGTTTTAAATATTGATAGTTCATCTGGATTACCAAAATCAC
TCTGCAGCCCTGCCGAGGCTAGTAGGCTGCAACCCTGGTCCCCACCCCTAACCTCTGC
TCCCCCTCAAGCCAAGTATGCAGCCACAGAAGGCCCTGCGGGCCCCCCCATTGCCAG
CACTGTCTCATAGAAGGCTCTGGTGGTACCTCTGGGCCCCAGGAGCATCAGCCCCCTGAT
CATCTGGGGTTTGTATCACCATATTTTCTCCCTGCTGTTCCCACCATGCCCTTCTGCCA
TCTTCTGGGAGAAGGAAACCAAAGGATCTAAAAGTGGGGTTTGGGGGAAGGTTTCAGCCT
CTCCCCACTCCCCTTCCCCACACCCTTACTCCCCAGCCAGAGAGACGCTGCTTTTAC
CAGGAAAGACTATTGAAAGATGTTTTATTTTATTTTCTCTGACCTTCCATCCTTGAAA
AAATGGGGAAAAAAGAAGAAAAAAGACAAAATCGACCATAAAAGACCAAAAAAAAAAAAA
AAAAAA
    
```

- Restriction Sites:** Please inquire
- ACCN:** NM\_015315
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- OTI Annotation:** This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u><a href="#">NM_015315.3</a></u> , <u><a href="#">NP_056130.2</a></u>
<b>RefSeq Size:</b>	6644 bp
<b>RefSeq ORF:</b>	3060 bp
<b>Locus ID:</b>	23367
<b>UniProt ID:</b>	<u><a href="#">Q6PKG0</a></u>
<b>Cytogenetics:</b>	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]