

## Product datasheet for **RC234972**

### **ORC1 (NM\_001190818) Human Tagged ORF Clone**

#### **Product data:**

|                           |  |
|---------------------------|--|
| Product Type:             | Expression Plasmids                        |
| Product Name:             | ORC1 (NM_001190818) Human Tagged ORF Clone |
| Tag:                      | Myc-DDK                                    |
| Symbol:                   | ORC1                                       |
| Synonyms:                 | HSORC1; ORC1L; PARC1                       |
| Mammalian Cell Selection: | Neomycin                                   |
| Vector:                   | pCMV6-Entry (PS100001)                     |
| E. coli Selection:        | Kanamycin (25 ug/mL)                       |



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**ORF Nucleotide Sequence:**

>RC234972 representing NM\_001190818  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGGCACACTACCCACAAAGGCTGAAGACCAGAAAACTTATTCATGGGTTGGCAGGCCCTTGTGGATC  
 GAAAACTGCACTACCAAACCTATAGAGAAATGTGTGTGAAAAACAGAAGGTTGTTCCACCGAGATTACAT  
 CCAGATTGGACAGTTTGTGTTGATTGAAGGGGATGATGATGAAAAACCGTATGTTGCTAAATTGCTTGAG  
 TTGTTCTGAAGTACTCTGATCCTCCTCTAAGAAACGTCTCGAGTACAGTGGTTTGTCCGATTCTGTG  
 AAGTCCCTGCCTGTAACCGCATTTGTTGGGCCGGAAGCCTGGTGCACAGGAAATATTCTGGTATGATTA  
 CCCGGCCTGTGACAGCAACATTAATGCGGAGACCATTGGCCTTGTTCGGGTGATACCTTTAGCCCCA  
 AAGGATGTGGTACCGACGAATCTGAAAAATGAGAAGACTCTTTGTGAAACTATCTGGAATGAGAAGA  
 AATTCAGGCCACTTTCTCAGAATAATGCGGAGTTGAATAAACCAAGAGAGTGCAGCCAAGTGCCA  
 GAAACCCGTGAGAGCCAAGAGTAAGAGTGCAGAGAGCCCTTCTTGACCCAGCAGAACATGTGGCCAAA  
 AGGATTGAATCAAGGCACTCCGCTCCTCAATCTCGCCAACTCCTACCATCCTCTTACCCCAAGAGCCA  
 GAAAGAGGCTGGAGCTTGCAACTTAGGTAACCCCTCAGATGTCCCAGCAGACTTCATGTGCCCTCTTGGA  
 TTCTCCAGGAAGAATAAAACGGAAGTGGCCTTCTCGGAGATCACCTCACCTTCTAAGAGATCTCAGCCT  
 GATAAACTTCAAACCTTGTCTCCAGCTCTGAAAGCCCCAGAGAAAACAGAGAGACTGGACTCTCTTATA  
 CTGAGGATGACAAGAAGGCTTACCTGAACATCGCATAATCCTGAGAACCCGAATTGCAGCTTCGAAAAC  
 CATAGACATTAGAGAGGAGAGAACACTTACCCCTATCAGTGGGGACAGAGATCTTCAGTGGTGCATCC  
 GTGATTTGAAACCAGAAAACATCAAAAAGAGGGATGCAAAAAGAAGCAAAAAGCCAGAATGAAGCGACCT  
 CTATGCCCATCGTATCCGACAGAAAGTCTGTCTTACTATGAATCGGATTAGGCAGCAGCTTCGGTT  
 TCTAGGTAATAGTAAAAGTGACCAAGAAGAGAAAGAGATTCTGCCAGCAGCAGAGATTTCCAGACTTAGC  
 AGTGACGAAGAAGAGGCTTCCACACCGCCCTTCCAAGGAGAGCACCCAGAACTGTGTCCAGGAACCTGC  
 GATCTTCTTGAAGTATCCTTACATACCTCACGAAGGTGCCAAAGAAGAGTCTCAAGCCTAGAACGCC  
 ACGTTGTGCCCTCCTCAGATCCGTAGTGAAGCCTGGCTGCCAGGAGCCAGCCAGTGTGCTGGAGGAA  
 GCCCGACTGAGGCTGCATGTTTCTGCTGTACCTGAGTCTTCCCTGTCCGGAACAGGAATTCCAAGACA  
 TCTACAATTTTGTGAAAGCAAACCTCTTGACCATACCGAGGGTGCATGTACATCTCCGGTGTCCCTGG  
 GACAGGGAAGACTGCCACTGTTTATGAAGTATACGCTGCCTGCAGCAGGCAGCCCAAGCCAATGATGTT  
 CCTCCCTTCAATACATTGAGGTCAATGGCATGAAGCTGACGGAGCCCCACCAAGTCTATGTGCAAATCT  
 TGCAGAAGCTAACAGGCCAAAAGCAACAGCCAACCATGCGGCAGAACTGCTGGCAAAGCAATTCTGCAC  
 CCGAGGGTCACTCAGGAAACCACCGTCTGCTTGTGGATGAGCTCGACCTTCTGTGGACTCACAAACAA  
 GACATAATGTACAATCTCTTTGACTGGCCCACTCATAAGGAGGCCCGGCTTGTGGTCTTGCAATTGCCA  
 ACACAATGGACCTGCCAGAGCGAATCATGATGAACCGGGTGTCCAGCCGACTGGGTCTTACCAGGATGTG  
 CTTCCAGCCCTATACATATAGCCAGTGCAGCAGATCCTAAGGTCCCAGCTCAAGCATCTAAAGGCCTTT  
 GAAGATGATGCCATCCAGCTGGTAGCCAGGAAGGTAGCAGCACTGTCTGGAGATGCACGACGGTGCCTGG  
 ACATCTGCAGGCGTCCCACAGAGATCTGTGAGTTCTCCAGCAGAAGCCTGACTCCCTGGCCTGGTCC  
 CATAGCCCACTCAATGGAAGCTGTGGATGAGATGTTTTTATCATACATACATCACGGCCATCAAAAATTC  
 TCTGTTCTGGAACAGAGCTTCTGAGAGCCATCCTCGCAGAGTTCCGTCGATCAGGACTGGAGGAAGCCA  
 CGTTTTCAACAGATATATAGTCAACATGTGGCACTGTGCAGAATGGAGGGACTGCCGTACCCACCATGTC  
 AGAGACCATGGCCGTGTGTTCTCACCTGGGCTCCTGTCGCTCCTGCTTGTGGAGCCAGCAGGAACGAT  
 CTGCTCCTTCGGGTGCGGCTCACGTCAGCCAGGATGATGTGCTGATGCGCTGAAAGACGAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC234972 representing NM\_001190818  
 Red=Cloning site Green=Tags(s)

MAHYPTRLKTRKTYSWVGRPLLDRKLHYQTYREMCVKTEGCSTEIHIQIGQFVLEGGDDDENPYVAKLLE  
 LFEDSDPPPKRARVQWFVRFCEVPACKRHLLGRKPGAQEIFWYDYPACDSNINAETIIGLVRVIPLAP  
 KDVVPTNLKNEKTLFVKLSWNEKKFRPLSSELF AELNKPQESAACKQKPVRAKSKSAESPSWTPAEHVAK  
 RIESRHSASKSRQTPHPLTPRARKRELGNLGNPQMSQQTSCASLDSPGRIKRVAFSEITSPSKRSQP  
 DKLQTLSPALKAPEKTRTGLSYTEDDKKASPEHRIILRTRIAASKTIDIREERTLTPISGGQRSSVPS  
 VILKPENIKRDAKEAKAQNEATSTPHRIRRKSSVLTMNRIRQQLRFLGNSKSDQEEKEILPAAEISDSS  
 SDEEEASTPPLPRRAPRTVSRNLRSSLKSSLHTLTKVPKSLKPRTPRCAAPQIRSRSLAAQEPASVLEE  
 ARLRLHVSAPESLPCREQEFQDIYNFVESKLLDHTGGCMYISGVPGTGKTATVHEVIRCLQQAQANDV  
 PPFQYIEVNGMKLTEPHQYVVQILQKLTGQKATANHAAELLAKQFCTRGSPQETTLLVDEL DLLWTHKQ  
 DIMYNLFDWPTHKEARLVVLA IANTMDLPERIMMNRVSSRLGLTRMCFQPYTYSQLQILRSRLKHLKAF  
 EDDAIQLVARKVAALSGDARRCLDICRRATEICEFSQQKPDSPGLVTIAHSMEAVDEMFSYITAIKNS  
 SVLEQSF LRAILAEFRSGL EEATFQQIYSQHVALCRMEGLPYPTMSETMAVCSHLGSCRLLLV EPRSND  
 LLLRVRLNVSQDDVLYALKDE

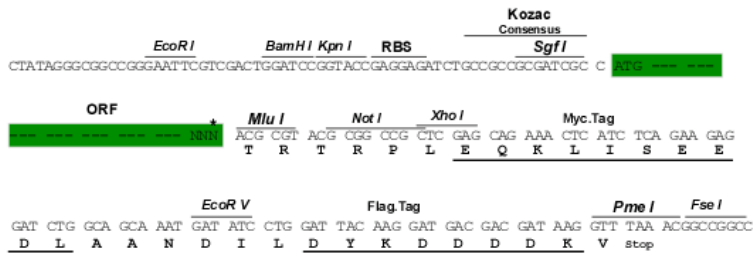
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6202\\_e08.zip](https://cdn.origene.com/chromatograms/mk6202_e08.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:

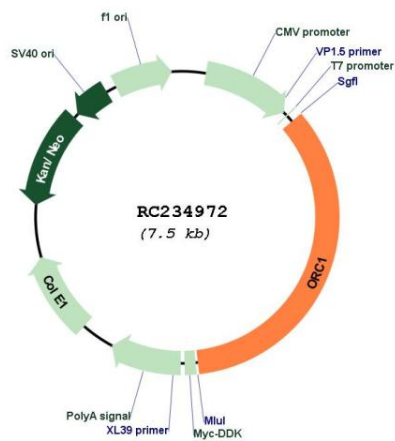


\* The last codon before the Stop codon of the ORF

|                               |   |
|-------------------------------|---|
| <b>ACCN:</b>                  | NM_001190818  |
| <b>ORF Size:</b>              | 2583 bp   |
| <b>OTI Disclaimer:</b>        | 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. <a href="#">More info</a>  |
| <b>OTI Annotation:</b>        | This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.  |
| <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>                | <a href="#">NM_001190818.1</a> , <a href="#">NP_001177747.1</a>   |
| <b>RefSeq Size:</b>           | 3189 bp   |
| <b>RefSeq ORF:</b>            | 2586 bp   |
| <b>Locus ID:</b>              | 4998  |
| <b>UniProt ID:</b>            | <a href="#">Q13415</a>  |
| <b>Cytogenetics:</b>          | 1p32.3  |
| <b>Protein Families:</b>      | Stem cell - Pluripotency  |
| <b>Protein Pathways:</b>      | Cell cycle  |
| <b>MW:</b>                    | 97.3 kDa  |

**Gene Summary:**

The origin recognition complex (ORC) is a highly conserved six subunits protein complex essential for the initiation of the DNA replication in eukaryotic cells. Studies in yeast demonstrated that ORC binds specifically to origins of replication and serves as a platform for the assembly of additional initiation factors such as Cdc6 and Mcm proteins. The protein encoded by this gene is the largest subunit of the ORC complex. While other ORC subunits are stable throughout the cell cycle, the levels of this protein vary during the cell cycle, which has been shown to be controlled by ubiquitin-mediated proteolysis after initiation of DNA replication. This protein is found to be selectively phosphorylated during mitosis. It is also reported to interact with MYST histone acetyltransferase 2 (MyST2/HBO1), a protein involved in control of transcription silencing. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jun 2010]

**Product images:**


Circular map for RC234972