

Product datasheet for **RC202066**

RPA70 (RPA1) (NM_002945) Human Tagged ORF Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | RPA70 (RPA1) (NM_002945) Human Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | RPA70 |
| Synonyms: | HSSB; MST075; REPA1; RF-A; RP-A; RPA70 |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |



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ORF Nucleotide Sequence:

>RC202066 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGTCGGCCAACCTGAGCGAGGGGGCCATTGCGGCCATCATGCAGAAGGGGGATACAACATAAAGCCCA
 TCCTCCAAGTCATCAACATCCGTCCCATTACTACGGGGAATAGTCCGCCCGTTATCGACTGCTCATGAG
 TGATGGATTGAACACTCTATCCTCTTTTCATGTTGGCGACACAGTTGAACCTCTCGTGGAGGAAGAACA
 TTGTCCAGCAACTGTGTATGCCAGATTCACAGATTTATTGTGAACACTCTGAAAGACGGAAGGAGAGTAG
 TTATCTTGATGGAATTAGAAGTTTTGAAGTCAGCTGAAGCAGTTGGAGTGAAGATTGGCAATCCAGTGCC
 CTATAATGAAGGACTCGGGCAGCCGCAAGTAGCTCCTCCAGCGCCAGCAGCCAGCCAGCAGCAAGCAGC
 AGGCCCCAGCCGAGAATGGAAGCTCGGAATGGGTTCTACTGTTTCTAAGGCTTATGGTGCTTCAAAGA
 CATTTGGAAAAGCTGCAGGTCCCAGCCTGTCACACTTCTGGGGAACACAGTCCAAGTGGTGCCCAT
 TGCCAGCCTCACTCCTTACCAGTCCAAGTGGACCATTTGTCTCGTGTTACCAACAAAAGTCAGATCCGT
 ACCTGGAGCAACTCCCGAGGGGAAGGGAAGCTTTTCTCCCTAGAAGTGGTTGACGAAAAGTGGTGAATCC
 GAGCTACAGCTTTCAATGAGCAAGTGGACAAGTCTTTTCTCTTATTGAAGTGAACAAGGTGATTTATT
 CTCGAAAGGCACCTGAAGATTGCTAACAAGCAGTTTACAGCTGTTAAAAATGACTACGAGATGACCTTC
 AATAACGAGACTTCCGTCATGCCCTGTGAGGACGACCATCATTTACCTACGGTTCAGTTTGATTTACCGG
 GGATTGATGACCTCGAGAACAAGTCGAAAGACTCACTTGTAGACATCATCGGGATCTGCAAGAGCTATGA
 AGACGCCACTAAAATCACAGTGAGGTCTAACAACAGAGAAGTTGCCAAGAGGAATATCTACTTGTAGGAC
 ACATCTGGGAAGTGGTACTGCTACACTGTGGGGGAAGATGCTGATAAATTTGATGGTCTAGACAGC
 CCGTGTGGCTATCAAAGGAGCCGAGTCTCTGATTTTCGGTGGACGGAGCCTCTCCGTGCTCTTCAAG
 CACTATCATTGGCAATCCTGACATCCCAGAGCCCTATAAGCTTCGTGGATGGTTTGACGCAAGGACAA
 GCCTTAGATGGTGTTCATCTCTGATCTAAAGAGCGCGGAGTTCGGAGGAGTAAACACCAACTGAAAA
 CCTTGTATGAGGTCAAATCCGAGAACCTGGGCCAAGGCGACAAGCCGACTACTTTAGTTCTGTGCCAC
 AGTGGTGTATCTTCGAAAGAGAACTGCATGTACCAAGCCTGCCCGACTCAGGACTGCAATAAGAAAGTG
 ATTGATCAACAGAATGGATTGTACCGCTGTGAGAAGTGCACACCGAATTTCCAATTTCAAGTACCGCA
 TGATCCTGTCAGTAAATATTGCAGATTTTCAAGAGAATCAGTGGGTGACTTGTTCAGGAGTCTGCTGA
 AGCTATCCTTGGACAAAATGCTGCTTATCTTGGGGAATAAAAGACAAGAATGAACAGGCATTTGAAGAA
 GTTTTCCAGAATGCCAATTCCGATCTTTCATATTCAGAGTCAGGGTCAAAGTGGAGACCTACAACGACG
 AGTCTCGAATTAAGGCCACTGTGATGGACGTGAAGCCCGTGGACTACAGAGAGTATGGCCGAAGGCTGGT
 CATGAGCATCAGGAGAAGTGCATTGATG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC202066 protein sequence
 Red=Cloning site Green=Tags(s)

MVGQLSEGAI AAIMQKGD TNIKPI LQVINIRP ITTGN SPPRYR LLMSDGLN TLSSFMLATQLNPLVEEEQ
 LSSNCVCQIHRFIVNTLKDGR RVVILMELEVLKSAEAVGVKIGNPVVYNEGLGQPQVAPPAPAASPAASS
 RPQPQNGSSGMSTVSKAYGASKTFGKAAGPSLSHTSGGTQSKVVPIASLTPYQSKWTCARVTNKSQIR
 TWSNSRGEGLF SLELVDES GEIRATAFNEQVDKFFPLIEVNVVYFYSKGT LKIANKQFTAVKNDYEMTF
 NNETSVMPCEDDHLPTVQDFDTGIDDL ENKSKDSLVDIIGICKSYEDATKITVRSNNREVAKRNIYLM
 TSGKVVTATLWGEDADKFDGSRQPVLAIK GARVSDFGGRSLSVLSSSTIIANPD IPEAYKLRGWFDAEGQ
 ALDGVSISDLKSGVGG SNTNWKTLYEVKSEN LGQGD KPDYFSSVATVVYLRKENCMYQACPTQDCNKKV
 IDQQNGLYRCEKDETFPNFKYR MILSVNIAD FQENQWVTCFQESAEAILGQNAAYLGELKDKNEQAFEE
 VFQANFRSFI FRVRVKVETYNDESRIKATVMDVKPV DYREYGRRLVMSIRRSALM

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6012_c04.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_002945

ORF Size: 1848 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.

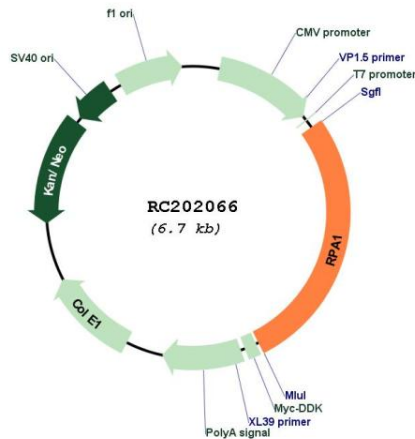
RefSeq: [NM_002945.2](#), [NP_002936.1](#)

RefSeq Size: 4345 bp

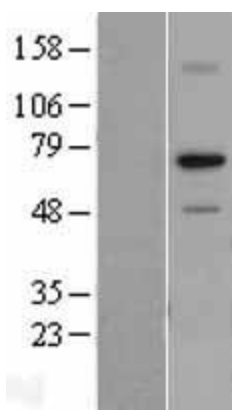
| | |
|-------------------|--|
| RefSeq ORF: | 1851 bp |
| Locus ID: | 6117 |
| UniProt ID: | P27694 |
| Cytogenetics: | 17p13.3 |
| Domains: | tRNA_anti, Rep-A_N |
| Protein Families: | Druggable Genome, Stem cell - Pluripotency |
| Protein Pathways: | DNA replication, Homologous recombination, Mismatch repair, Nucleotide excision repair |
| MW: | 68.1 kDa |

Gene Summary: This gene encodes the largest subunit of the heterotrimeric Replication Protein A (RPA) complex, which binds to single-stranded DNA (ssDNA), forming a nucleoprotein complex that plays an important role in DNA metabolism, being involved in DNA replication, repair, recombination, telomere maintenance, and co-ordinating the cellular response to DNA damage through activation of the ataxia telangiectasia and Rad3-related protein (ATR) kinase. The nucleoprotein complex protects the single-stranded DNA from nucleases, prevents formation of secondary structures that would interfere with repair, and co-ordinates the recruitment and departure of different genome maintenance factors. This subunit contains four oligonucleotide/oligosaccharide-binding (OB) domains, though the majority of ssDNA binding occurs in two of these domains. The heterotrimeric complex has two different modes of ssDNA binding, a low-affinity and high-affinity mode, determined by which ssDNA binding domains are utilized. The different binding modes differ in the length of DNA bound and in the proteins with which it interacts, thereby playing a role in regulating different genomic maintenance pathways. [provided by RefSeq, Sep 2017]

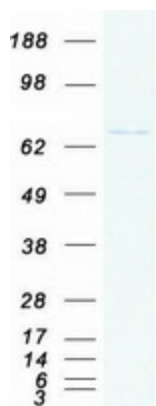
Product images:



Circular map for RC202066



Western blot validation of overexpression lysate (Cat# [LY401030]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202066 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified RPA1 protein (Cat# [TP302066]). The protein was produced from HEK293T cells transfected with RPA1 cDNA clone (Cat# RC202066) using MegaTran 2.0 (Cat# [TT210002]).