

# Recombinant Full Length Human RPA1 Protein, C-Flag-tagged

**Cat. No.** RPA1-685HFL    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b>Product Overview</b> | Recombinant Full Length Human RPA1 Protein, fused to Flag-tag at C-terminus, was expressed in Mammalian cells.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Source</b>           | Mammalian Cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Description</b>      | <p>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.</p> |
| <b>Form</b>             | 25 mM Tris HCl, pH 7.3, 100 mM glycine, 10% glycerol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Molecular Mass</b>   | 68 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>AA Sequence</b>      | <p>MVGQLSEGAIAAIMQKGDTNIKPILQVINIRPITGNSPPRYRLLMSDGLNTLSSFMLA<br/> TQLNPLVEEEQ LSSNCVCQIHRFIVNTLKDGRRVVILMEVLKSAEAVGVKIGNPVP<br/> YNEGLGQPQVAPPAPAASPAASS RPQPQNGSSGMGSTVSKAYGASKTFGKAAGP<br/> SLSHTSGGTQSKVVPIASLTPYQSKWTICARVTNKSQIR TWSNSRGEGLKFSLELVD<br/> ESGEIRATAFNEQVDKFFPLIEVNKVYYFSKGTCLKIANKQFTAVKNDYEMTF NNETS<br/> VMPCEDDHHLPTVQFDFTGIDDLNENKSKDSLVDIIGICKSYEDATKITVRSNNREVAK<br/> RNIYLM TSGKVVTATLWGEDADKFDGSRQPVLAIKGARVSDFGGRSLSVLSSSTII<br/> ANPDIPEAYKLRGWFDAEGQ ALDGVVISDLKSGGVGGSNTNWKTLYEKSENGLQ<br/> GDKPDYFSSVATVVYLRKENCMYQACPTQDCNKKV IDQQNGLYRCEKCDTEFPNF<br/> KYRMILSVNIADFQENQWVTCFQESAEAILGQNAAYLGELKDKNEQAFEE<br/> VFQANANFRSFIFRVRVKVETYNDESRIKATVMDVKPVDYREYGRRLVMSIRRSALMT<br/> RTRPLEQKLISEEDLAANDILDYKDDDDKV</p> |
| <b>Purity</b>           | > 80% as determined by SDS-PAGE and Coomassie blue staining.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Stability</b>        | Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Storage</b>          | Store at -80 centigrade.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Concentration</b>    | >50 ug/mL as determined by microplate BCA method.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Preparation</b>      | Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Protein Families</b> | Druggable Genome, Stem cell - Pluripotency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Protein Pathways</b> | DNA replication, Homologous recombination, Mismatch repair, Nucleotide excision                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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repair

**Full Length**

Full L.

**GENE INFORMATION****Gene Name**

RPA1 replication protein A1 [ Homo sapiens (human) ]

**Official Symbol**

RPA1

**Synonyms**

HSSB; RF-A; RP-A; REPA1; RPA70; MST075; PFBMFT6

**Gene ID**

6117

**mRNA Refseq**

NM\_002945.5

**Protein Refseq**

NP\_002936.1

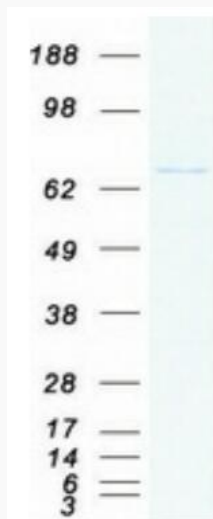
**MIM**

179835

**UniProt ID**

P27694

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Coomassie blue staining of purified RPA1 protein.