

## Product datasheet for **MG209516**

### **Rpa1 (NM\_026653) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Rpa1 (NM_026653) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Rpa1
Synonyms:	70kDa; 5031405K23Rik; AA589576; AW557552; RF-A; RP-A; Rpa
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG209516 representing NM\_026653  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGTGGGACACCTGAGCGAGGGGGCCATCGAGGTCATGATACAGCAGGAAAATACATCCATAAAGCCCA  
 TCCTGCAGGTCATTAACATCCGTCCCATTCTACAGGGAATAGGTCACCCCGGTACCGACTGCTCATGAG  
 TGATGGGTTGAACACGCTTTCCTCGTTCATGCTGGCCACGCAGCTGAACACCCTGGTCGAGGGAGGGCAG  
 CTGGCCAGCAACTGTGTCTGCCAGGTCACAAGTTCATCGTCAACACCCTGAAAGACGGCAGGAAAGTAG  
 TTGTTTTGATGGACTTGAAGTTATGAAATCTGCTGAAGACGTTGGATTAAGATTGGGAATCCAGTGCC  
 CTATAATGAAGGATATGGGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAAGCAGTCCCTTCCCA  
 GCCTCTGCAGCGACACCACGCGCAAGCCCCAGCCACAGAATGGGAGTCTGGGAATGGGTTCCACTG  
 CAGCTAAGGCTTATGGTGCCTCAAAGCCATTTGAAAACCTGCCGGAACGGCCTGCTGCAGCCTCAGG  
 TGGGACACAGTCAAAGTGGTGCCTATCGCCAGCCTCACCCCGTACCAGTCCAAGTGGACTATTTGTGCC  
 CGTGTCACCAACAAAAGTCAGATCCGCACCTGGAGTAATCCCGGGGGAAAGGAAAGCTTTTCTCTCTAG  
 AACTTGTGGATGAAAGCGGTGAAATCAGAGCTACTGCTTCAATGAGCAAGTGGACAAGTCTTTCCCT  
 TATTGAAGTGAACAAGGTGATTACTTCTCAAAGGGCGCCTGAAGATCGCTAACAAACAGTTCTCCGCT  
 GTTAAAAATGACTATGAGATGACCTTCAATAATGAGACTTCTGTCTTCCCTGTGAAGATGGCCATCACT  
 TACCCACAGTTCAAGTTGATTTTACAGGGATCGGTGACCTAGAGAGCAAGGCTAAAGACGCACTAGTAGA  
 CATCATTGGAATCTGCAAGAGCTATGAAGATTCGATTAATACAGTGAAGTGAACAACAGAGAAGTT  
 GCTAAGAGAAAATATCTATTTGATGGACATGTGAGGAAGGTGGTGACCACAACCTGTGGGAGAAAGATG  
 CTGACAAGTTTGACGGCTCTCGGACCCCGTATGGCCATCAAAGGAGCCCGAGTCTGACTTCGGTGG  
 ACGGAGCCTCTCGGTCTCTCATCCAGCACTGTCAATTGTAATCCCTGACATCCCAGAGGCCATAAGCTT  
 CGTGGCTGGTTTGACTCAGAAGGACAAGCCTTAGATGGTGTTCATCTCTGACCACAGGAGTGGAGGGG  
 CCGGAGGGGGCAACCAACTGGAAAACCTTGCATGAGGCTAAATCTGAGAACCTGGGCCAGGGAGACAA  
 GGCGGACTATTTACAGCACTGTGGCAGCGGTGGTGTTCCTCGCAAAGAGAACTGTATGTACCAGGCTGC  
 CCAACCCAGGACTGCAATAAGAAAGTATTGACCAGCAGAATGGGTTGTACCGCTGTGAGAAGTGTGACC  
 GGGAAATTTCCCAATTTCAAATACCGCATGATCTTATCGGCAAATATTGCAGATTTTCAAGAGAACCAGTG  
 GGTGACGTGTTTCCAGGAGTCTGCAGAGGCCATCCTTGGACAGAACTATGTACCTTGGGAACTCAA  
 GAGAAGAACGAGCAGGCTTTGAAGAGGTTTTCCAGAATGCCAATTCGGTCTTTACGTTTCAAGATCA  
 GGGTCAAGCTGGAGACCTACAATGATGAATCTCGAATTAAGGCCACTGTGATGGACGTGAAGCCCGTGA  
 CTTTCAGAGACTATGGCAGACGGCTGATCGGAACATCAGGAAGAACATG

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>MG209516 representing NM\_026653  
 Red=Cloning site Green=Tags(s)

MVGHLSGAIEVMIQQENTSIKPILQVINIRPISTGNRSPRYRLLMSDGLNLTSSFMLATQLNLTVEGGQ  
 LASNCVCQVHKFIVNTLKDGRKVVVLMDEVMSAEDVGLKIGNPVYNEGYQQQQQQQQQVAVPSP  
 ASAATPPASKPQPQNGSLGMGSTAAKAYGASKPFKPAAGTGLLQPSGGTQSKVVPASLTPYQSKWTICA  
 RVTNKSQIRTWSNSRGEKLFSLLELVDESSEIRATAFNEQVDFKFFPLIEVNVVYFSGKALKIANKQFSA  
 VKNDYEMTFNNETSVLPCEDGHHLPTVQFDFTGIGDLESKAKDALVDIIGICKSYEDSIKITVKSNNREV  
 AKRNIYLMMSGKVVTTTLWGEDADKFDGSRQPVMAIKGARVSDFGGRSLSVLSSSTVIIVNPDIPAYKL  
 RGWFDSEGOALDGVISDHRSGGAGGNTNWKTLHEAKSENLGQGDKADYFSTVAAVVFLRKENCMYQAC  
 PTQDCNKKVIDQQNGLYRCEKCDREFPNFKYRMLSANIADFQENQWVTCFQESAEAILGQNTMYLGELK  
 EKNEQAFEEVFQANFRSFTFRIRVKLETYNDESRIKATVMDVKPVDFRDYGRRLIANIRKMN

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

SgfI-MluI



<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_026653.2</a> , <a href="#">NP_080929.1</a>
<b>RefSeq Size:</b>	3058 bp
<b>RefSeq ORF:</b>	1872 bp
<b>Locus ID:</b>	68275
<b>UniProt ID:</b>	<a href="#">Q8VEE4</a>
<b>Cytogenetics:</b>	11 45.79 cM
<b>Gene Summary:</b>	As part of the heterotrimeric replication protein A complex (RPA/RP-A), binds and stabilizes single-stranded DNA intermediates, that form during DNA replication or upon DNA stress. It prevents their reannealing and in parallel, recruits and activates different proteins and complexes involved in DNA metabolism. Thereby, it plays an essential role both in DNA replication and the cellular response to DNA damage. In the cellular response to DNA damage, the RPA complex controls DNA repair and DNA damage checkpoint activation. Through recruitment of ATRIP activates the ATR kinase a master regulator of the DNA damage response. It is required for the recruitment of the DNA double-strand break repair factors RAD51 and RAD52 to chromatin in response to DNA damage. Also recruits to sites of DNA damage proteins like XPA and XPG that are involved in nucleotide excision repair and is required for this mechanism of DNA repair. Plays also a role in base excision repair (BER) probably through interaction with UNG. Also recruits SMARCAL1/HARP, which is involved in replication fork restart, to sites of DNA damage. May also play a role in telomere maintenance.[UniProtKB/Swiss-Prot Function]