

## Product datasheet for **MG223598**

### Rpe65 (NM\_029987) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Rpe65 (NM_029987) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Rpe65
Synonyms:	65kDa; A930029L06Rik; LCA2; Mord1; rd12; RP20
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG223598 representing NM\_029987  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGTCTATCCAAATTGAACACCCTGCTGGTGGCTACAAGAACTATTTGAACTGTGGAGAACTGCCT  
 CACCCTAACAGCTCATGTCACAGGCAGGATCCCTCTGGCTCACTGGCAGTCTCTCCGATGTGGGCC  
 AGGGCTCTTTGAAGTTGGATCTGAGCCTTTCTATCACCTGTTTGTGGACAAGCCCTTTTGCACAAGTTT  
 GACTTCAAGGAGGGCCATGTCACATACCACAGAAGATTATCCGCACTGATGCTTATGTTGAGCAATGA  
 CTGAGAAGAGGATTGTCATAACAGAATTTGGCACCTGTGCTTTCCAGACCCCTGCAAGAATATATTTTC  
 CAGGTTTTTTTCTACTTTAAAGGAGTAGAGTTACTGACAATGCCCTTGTAAATATCTACCCAGTGGGA  
 GAAGATTACTATGCATGCACAGAGACCACTTTATCACAAGATTAACCCAGAGACCTTGGAGACAATTA  
 AGCAGGTTGATCTTTGCAACTATATTTCTGTCAATGGTGGCCACTGCTCATCCACATATTGAAAGTATGG  
 AACAGTTTACAACATTGGGAATGCTTTGGAAAAATTTACAGTTGCCTACAACATTATTAAGATCCCT  
 CCACTGAAAGCAGACAAGGAAGATCCAATAAACAAGTCAGAAGTTGTTGTGCAGTCCCTCGCAGTGATC  
 GTTTCAAGCCATCTTATGTACACAGTTTTGGTCTGACTCCCAACTATATCGTTTTTGGGAGACTCCAGT  
 CAAAATTAACCTTTCAAGTTTCTTTCTCGTGGAGTCTTTGGGGAGCCAACTACATGGACTGTTTCGAG  
 TCCAATGAAAGCATGGGGTTTGGCTTCATGTTGCTGATAAAAAAAGAAGAAAATACTTCAATAACAAAT  
 ACAGGACTTCCCTTTCAATCTCTTCCATCATATCAACTTATGAAGACAATGGATTTCTGATTGTGGA  
 TCTCTGTTGCTGGAAAGGTTTGAATTTGTTTATAATTACTTATATTTAGCCAATTTACGTGAGAATTGG  
 GAAGAAGTTAAAAGAAATGCTATGAAGGCTCCTCAGCCTGAAGTCAGGAGATATGTACTTCTTTGACAA  
 TTGACAAGGTCGACACAGGCAGAAATTTAGTCACACTGCCCATACAACGCCACAGCCACTCTGCCGAG  
 TGATGAGACCATATGGCTGGAACCTGAGGTTCTCTTTTCAGGGCCTCGTCAAGCCTTTGAATTTCCCTCAA  
 ATCAATTAACAGAAATTTGGAGGAAACCTTACTTATGCATACGGACTTGGGTTGAATCACTTTGTTT  
 CTGACAAGCTCTGTAAGATGAACGTCAAACTAAAGAAATCTGGATGTGGCAAGAGCCAGATTCTTACCC  
 ATCTGAACCCATCTTTGTTTCTCAACCAGATGCTCTGGAAGAAGATGATGGTGTGGTTCTGAGTGTGGT  
 GTGAGCCCTGGGGCAGGGCAAAGCCTGCATATCTCTGGTTCTGAATGCCAAAGACTTGAGTGAATTTG  
 CCAGGGCTGAAGTGGAGACTAATATCCCTGTGACCTTCCATGGACTGTTCAAAGATCC

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>MG223598 representing NM\_029987  
 Red=Cloning site Green=Tags(s)

MSIQIEHPAGGYKFLFETVEELSSPLTAHVTGRIPLWLTGSLLRCPGLFEVGPSEPFYHLFDGQALLHKF  
 DFKEGHVYHRRFIRTDAYVRAMTEKRIVITEFGTCAFPDPCKNIFSRFFSYFKGVEVTDNALVNIYPVG  
 EDYYACTETNFITKINPETLETIKQVDLCNYSVNGATAHPHIESDGTVYNIIGNCFGKNFTVAYNIKIP  
 PLKADKEDPINKSEVVVQFPCSDRFKPSYVHSFGLTPNYIVFVETPVKINLKFLLSSWSLWGANYMDCFE  
 SNESMGVWLHVADKRRKYFNKYRTSPFNLFHHINTYEDNGFLIVDLCCWKGFEFVYNYLYLANLRENW  
 EEVKNAMKAPQPEVRRYVLPIDKVDTRNLTLPHTTATATLRSDETIWLEPEVLFSGPRQAFEFPPQ  
 INYQKFGKPYTYAYGLGLNHFVPDKLCKMNVKTEIWMWQEPDSYPSEPIFVSQPDAL EEDDGVVLSV  
 VSPGAGQKPAYLLVLNAKDLSEIARAETNIPVTFHGLFKRS

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_029987

**ORF Size:** 1599 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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:**

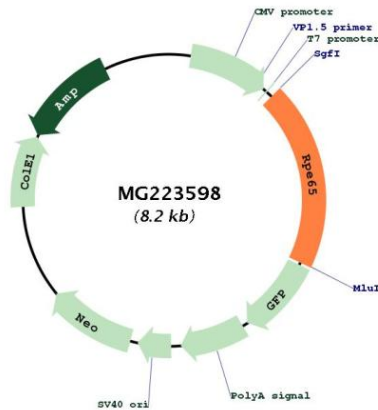
1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_029987.2](#), [NP\\_084263.2](#)

RefSeq Size: 1862 bp  
 RefSeq ORF: 1602 bp  
 Locus ID: 19892  
 UniProt ID: [Q91ZQ5](#)  
 Cytogenetics: 3 82.52 cM

**Gene Summary:** Critical isomerohydrolase in the retinoid cycle involved in regeneration of 11-cis-retinal, the chromophore of rod and cone opsins. Catalyzes the cleavage and isomerization of all-trans-retinyl fatty acid esters to 11-cis-retinol which is further oxidized by 11-cis retinol dehydrogenase to 11-cis-retinal for use as visual chromophore (PubMed:15765048, PubMed:9843205, PubMed:23407971, PubMed:28500718). Essential for the production of 11-cis retinal for both rod and cone photoreceptors (PubMed:17251447). Also capable of catalyzing the isomerization of lutein to meso-zeaxanthin an eye-specific carotenoid. The soluble form binds vitamin A (all-trans-retinol), making it available for LRAT processing to all-trans-retinyl ester. The membrane form, palmitoylated by LRAT, binds all-trans-retinyl esters, making them available for IMH (isomerohydrolase) processing to all-cis-retinol. The soluble form is regenerated by transferring its palmitoyl groups onto 11-cis-retinol, a reaction catalyzed by LRAT (By similarity).[UniProtKB/Swiss-Prot Function]

**Product images:**



Circular map for MG223598