

## Product datasheet for **RG210433**

### **RPE65 (NM\_000329) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	RPE65 (NM_000329) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	RPE65
Synonyms:	BCO3; LCA2; mRPE65; p63; rd12; RP20; sRPE65
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG210433 representing NM\_000329  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGTCTATCCAGTTGAGCATCCTGCTGGTGGTTACAAGAACTGTTGAACTGTGGAGAACTGCCT  
 CGCCGCTCACAGCTCATGTAACAGGCAGGATCCCCTCTGGCTCACCGGCACTCTCTTCGATGTGGGCC  
 AGGACTCTTTGAAGTTGGATCTGAGCCATTTTACCACCTGTTTGTGGCAAGCCCTCTGCACAAGTTT  
 GACTTTAAGAAGGACATGTCACATACCACAGAAGTTTATCCGCACTGATGCTTACGTACGGGCAATGA  
 CTGAGAAAAGGATCGTCATAACAGAATTTGGCACCTGTGCTTCCAGATCCCTGCAAGAATATATTTTC  
 CAGGTTTTTTTCTTACTTTTCAGGAGTAGAGTTACTGACAATGCCCTTGTAAATGTCTACCCAGTGGG  
 GAAGATTACTACGCTTGCACAGAGACCACTTTATTACAAAGATTAATCCAGAGACCTTGGAGACAATTA  
 AGCAGGTTGATCTTTGCAACTATGTCTGTCAATGGGGCCACTGCTCACCCACATTGAAAATGATGG  
 AACCGTTTACAATATTGGTAATTGCTTTGGAAAAATTTTCAATTGCCTACAACATTGAAAGATCCCA  
 CCACTGCAAGCAGACAAGGAAGTCCAATAAGCAAGTCAGAGATCGTTGTACAATCCCCTGCAGTGACC  
 GATTCAAGCCATCTTACGTTTCATAGTTTGGTCTGACTCCCAACTATATCGTTTTTGGGAGACACCACT  
 CAAAATTAACCTGTTCAAGTTTCTTTTTCATGGAGTCTTTGGGGAGCCAACTACATGGATTGTTTTGAG  
 TCCAATGAAACCATGGGGTTTGGCTTCATATTGCTGACAAAAAAGGAAAAAGTACCTCAATAATAAT  
 ACAGAACTTCTCCTTTCAACCTTTCATCACATCAACACCTATGAAGACAATGGGTTTCTGATTGTGGA  
 TCTCTGCTGCTGGAAAGGATTTGAGTTGTTTATAATTACTTATATTTAGCCAATTTACGTGAGAAGTGG  
 GAAGAGGTGAAAAAAATGCCAGAAAGGCTCCCCAACCTGAAGTTAGGAGATATGTAATCTCTTTGAATA  
 TTGACAAGGCTGACACAGGCAAGAATTTAGTCACGCTCCCAATACAACCTGCCACTGCAATCTGTGCAG  
 TGACGAGACTATCTGGCTGGAGCCTGAAGTTCTCTTTTCAGGGCCTCGTCAAGCATTTGAGTTTCTCAA  
 ATCAATTACCAGAAGTATTGTGGAAACCTTACACATATGCGTATGGACTTGGCTTGAATCACTTTGTTT  
 CAGATAGGCTCTGTAAGCTGAATGTCAAACTAAAGAACTTGGGTTTGGCAAGAGCCTGATTCATACCC  
 ATCAGAACCCATCTTTGTTTCTCACCCAGATGCCTTGAAGAAGATGATGGTGTAGTTCTGAGTGTGGT  
 GTGAGCCAGGAGCAGGACAAAAGCCTGCTTATCTCTGATTCTGAATGCCAAGGACTTAAGTGAAGTTG  
 CCCGGCTGAAGTGAGATTAACATCCCTGTCACCTTTCATGGACTGTTCAAAAAATCT

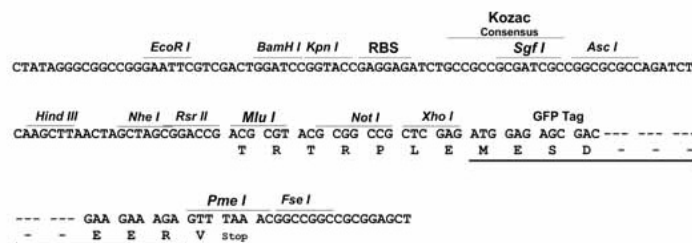
**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

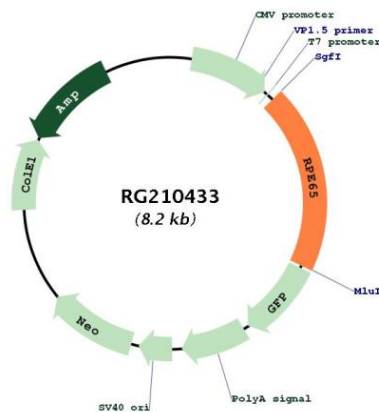
Cloning sites used for ORF Shutting:



<b>ACCN:</b>	NM_000329
<b>ORF Size:</b>	1599 bp
<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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></p>
<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_000329.3</a>
<b>RefSeq Size:</b>	2608 bp
<b>RefSeq ORF:</b>	1602 bp
<b>Locus ID:</b>	6121
<b>UniProt ID:</b>	<a href="#">Q16518</a>
<b>Cytogenetics:</b>	1p31.3
<b>Domains:</b>	RPE65
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Retinol metabolism

**Gene Summary:**

The protein encoded by this gene is a component of the vitamin A visual cycle of the retina which supplies the 11-cis retinal chromophore of the photoreceptors opsin visual pigments. It is a member of the carotenoid cleavage oxygenase superfamily. All members of this superfamily are non-heme iron oxygenases with a seven-bladed propeller fold and oxidatively cleave carotenoid carbon:carbon double bonds. However, the protein encoded by this gene has acquired a divergent function that involves the concerted O-alkyl ester cleavage of its all-trans retinyl ester substrate and all-trans to 11-cis double bond isomerization of the retinyl moiety. As such, it performs the essential enzymatic isomerization step in the synthesis of 11-cis retinal. Mutations in this gene are associated with early-onset severe blinding disorders such as Leber congenital. [provided by RefSeq, Oct 2017]

**Product images:**

Circular map for RG210433