

Product datasheet for **RC210433**

RPE65 (NM_000329) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	RPE65 (NM_000329) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	RPE65
Synonyms:	BCO3; LCA2; mRPE65; p63; rd12; RP20; sRPE65
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC210433 representing NM_000329
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCTATCCAGTTGAGCATCCTGCTGGTGGTTACAAGAACTGTTGAACTGTGGAGAACTGCCT
 CGCCGCTCACAGCTCATGTAACAGGCAGGATCCCCTCTGGCTCACCGGAGTCTCCTTCGATGTGGCC
 AGGACTCTTTGAAGTTGGATCTGAGCCATTTTACCACCTGTTGATGGGCAAGCCCTCTGCACAAGTTT
 GACTTTAAAGAAGGACATGTCACATACCACAGAAGTTTATCCGCACTGATGCTTACGTACGGGCAATGA
 CTGAGAAAAGGATCGTCATAACAGAATTTGGCACCTGTGCTTCCAGATCCCTGCAAGAATATATTTTC
 CAGGTTTTTTTCTACTTTGAGGAGTAGAGTTACTGACAATGCCCTTGTAAATGTCTACCCAGTGGGG
 GAAGATTACTACGCTTGACAGAGACCAACTTTATTACAAAGATTAATCCAGAGACCTTGGAGACAATTA
 AGCAGGTTGATCTTTGCAACTATGTCTGTCAATGGGGCCACTGCTCACCCACATTGAAAATGATGG
 AACCGTTTACAATATTGGTAATTGCTTTGGAAAAATTTTCAATTGCCTACAACATTGAAAGATCCCA
 CCACTGCAAGCAGACAAGGAAGATCCAATAAGCAAGTCAGAGATCGTTGTACAATCCCCTGCAGTGACC
 GATTCAAGCCATCTTACGTTTCATAGTTTTGGTCTGACTCCCAACTATATCGTTTTTGGGAGACACCACT
 CAAAATTAACCTGTTCAAGTTTCCTTTTCATGGAGTCTTTGGGGAGCCAACTACATGGATTGTTTTGAG
 TCCAATGAAACCATGGGGTTTGGCTTCATATTGCTGACAAAAAAGGAAAAAGTACCTCAATAAAT
 ACAGAACTTCTCCTTTCAACCTTCCATCACATCAACACCTATGAAGACAATGGGTTTCTGATTGTGGA
 TCTCTGCTGCTGGAAAGGATTTGAGTTGTTTATAATTACTTATATTTAGCCAATTTACGTGAGAACTGG
 GAAGAGGTGAAAAAAATGCCAGAAAGGCTCCCAACCTGAAGTTAGGAGATATGTAATCTCCTTTGAATA
 TTGACAAGGCTGACACAGGCAAGAATTTAGTCACGCTCCCAATACAACCTGCCACTGCAATCTGTGCA
 TGACGAGACTATCTGGCTGGAGCCTGAAGTTCTCTTTTCAGGGCCTCGTCAAGCATTTGAGTTTCTCAA
 ATCAATTACCAGAAGTATTGTGGAAACCTTACACATATGCGTATGGACTTGGCTTGAATCACTTTGTTT
 CAGATAGGCTCTGTAAGCTGAATGTCAAACTAAAGAACTTGGGTTTGGCAAGAGCCTGATTCATACCC
 ATCAGAACCCATCTTTGTTTCTCACCCAGATGCCTTGAAGAAGATGATGGTGTAGTTCTGAGTGTGGT
 GTGAGCCAGGAGCAGGACAAAAGCCTGCTTATCTCTGATTCTGAATGCCAAGGACTTAAAGTGAAGTTG
 CCCGGCTGAAGTGAGATTAACATCCCTGTCACCTTTCATGGACTGTTCAAAAAATCT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC210433 representing NM_000329
 Red=Cloning site Green=Tags(s)

MSIQVEHPAGGYKLFETVEELSSPLTAHVTRGRIPLWLTGSLLRCPGLFEVGESEPFYHLFDGQALLHKF
 DFKEGHVYHRRFIRTDAYVRAMTEKRIVITEFGTCAFPDPCKNIFSRFFSYFRGVEVDNALVNVYPVG
 EDYYACTETNFITKINPETLETIKQVDLCNYVSVNGATAHPHIENDGTVYNIIGNCFGKNFSIAYNIVKIP
 PLQADKEDPISKSEIVVQFPCSDRFKPSYVHSFGLTPNYIVFVETPVKINLKFLLSSWSLWGANYMDCFE
 SNETMGVWLHIADKKRKYLNKRYRTPFNLFHHINTYEDNGFLIVDLCCWKGFEFVYNYLYLANLRENW
 EEVKKNARKAPQPEVRRYVPLNIDKADTGKNLVTLPNTTATAILCSDETIWLEPEVLFSGPRQAFEPQ
 INYQKYCGKPYTYAYGLGLNHFVPDRCLKLVKTKETWVWQEPDSYPSEPIFVSHPDAL EEDDGVVLSV
 VSPGAGQKPAYLLILNAKDLSEVARAEVINIPVTFHGLFKKS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_000329

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 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_000329.3](#)

RefSeq Size: 2608 bp

RefSeq ORF: 1602 bp

Locus ID: 6121

UniProt ID: [Q16518](#)

Cytogenetics: 1p31.3

Domains: RPE65

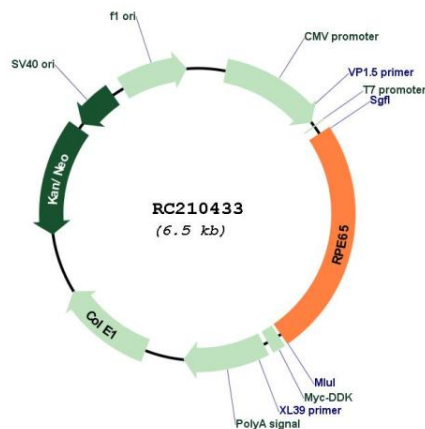
Protein Families: Druggable Genome

Protein Pathways: Retinol metabolism

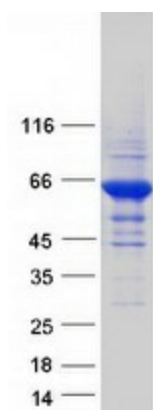
MW: 61.4 kDa

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 RC210433



Coomassie blue staining of purified RPE65 protein (Cat# [TP310433]). The protein was produced from HEK293T cells transfected with RPE65 cDNA clone (Cat# RC210433) using MegaTran 2.0 (Cat# [TT210002]).