

Product datasheet for **SC119977**

RPE65 (NM_000329) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	RPE65 (NM_000329) Human Untagged Clone
Tag:	Tag Free
Symbol:	RPE65
Synonyms:	BCO3; LCA2; mRPE65; p63; rd12; RP20; sRPE65
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene ORF within SC119977 sequence for NM_000329 edited (data generated by NextGen Sequencing)

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ATGTCTATCCAGGTTGAGCATCCTGCTGGTGGTTACAAGAACTGTTTGAACCTGTGGAG
GAACTGTCCTCGCCGCTCACAGCTCATGTAACAGGCAGGATCCCCCTCTGGCTCACCGGC
AGTCTCCTTCGATGTGGGCCAGGACTCTTTGAAGTTGGATCTGAGCCATTTTACCACCTG
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AGAAGGTTTCATCCGCACTGATGCTTACGTACGGGCAATGACTGAGAAAAGGATCGTCATA
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TCTTACTTTTCGAGGAGTAGAGGTTACTGACAATGCCCTTGTTAATGTCTACCCAGTGGGG
GAAGATTACTACGCTTGACAGAGACCAACTTTATTACAAAGATTAATCCAGAGACCTTG
GAGACAATTAAGCAGGTTGATCTTTGCAACTATGTCTCTGTCAATGGGGCCACTGCTCAC
CCCCACATTGAAAATGATGGAACCGTTTACAATATTGGTAATTGCTTTGGAAAAATTTT
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AGCAAGTCAGAGATCGTTGTACAATTCCCCTGCAGTGACCGATTCAAGCCATCTTACGTT
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CTGTTCAAGTTTCTTTTCATGGAGTCTTTGGGGAGCCAACTACATGGATTGTTTTGAG
TCCAATGAAACCATGGGGGTTTGGCTTCATATTGCTGACAAAAAAGGAAAAAGTACCTC
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TTATATTTAGCCAATTTACGTGAGAAGTGGGAAGAGGTGAAAAAATGCCAGAAAGGCT
CCCCAACCTGAAGTTAGGAGATATGACTTCTTTGAATATTGACAAGGCTGACACAGGC
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ATCTGGCTGGAGCCTGAAGTTCTTTTTAGGGCCTCGTCAAGCATTTGAGTTTCTCAA
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GAAGATGATGGTGTAGTTCTGAGTGTGGTGGTGGAGCCAGGAGCAGGACAAAAGCCTGCT
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AACATCCCTGTCACCTTTTCATGGACTGTTCAAAAAATCTTGA
    
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Clone variation with respect to NM_000329.2

5' Read Nucleotide Sequence: >OriGene 5' read for NM_000329 unedited

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NAGGATTTTGTAAACGACTCACTATTAGGGCGGCCGCGATTCCGCACGAGGCAGAACTC
TGGATCCTGAACCTGGAAGAAAAGTCTATCCAGGTTGAGCATCCTGCTGGTGGTTACAAGA
AACTGTTTGAACCTGTGGAGGAAGTCTCCTCGCCGCTCACAGCTCATGTAACAGGCAGGA
TCCCCCTGGCTCACCGCAGTCTCCTTCGATGTGGGCCAGGACTCTTTGAAGTTGGAT
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AAGGACATGTCACATACCACAGAAGGTTTCATCCGCACTGATGCTTACGTACGGGCAATGA
CTGAGAAAAGGATCGTCATAACAGAATTTGGCACCTGTGCTTTCCAGATCCCTGCAAGA
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GTCAATGGGGCCACTGCTCACCCACATTGAAAATGATGGAACCGTTTACAATATTGGT
AATTGCTTTGGAAAAATTTTTCAATTGCCTACAACATTGTAAGATCCCACCACTGCAA
GCAGACAAGGAAGATCCAATAAGCAAGTCAAGATCGTTGTACAATTTCCCTGCAGTGAC
CGATTCAAGCCATCTTACGTTTACATGTTNTGGTCTGACTCCCACTATATCGTTTTTGGG
AGACCCAGTCAAAATAACCTGTTTCAAGTCTTTTCTCATGGAGTCTTTGGGAGCCACTACA
TGGATGTTTGGTCCATGAACCATGGGGTTTGC
    
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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

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]