

## Product datasheet for **SC127414**

### OPA1 (NM\_130832) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	OPA1 (NM_130832) Human Untagged Clone
Tag:	Tag Free
Symbol:	OPA1
Synonyms:	BERHS; largeG; MGM1; MTDPS14; NPG; NTG
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL4</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >NCBI ORF sequence for NM\_130832, the custom clone sequence may differ by one or more nucleotides

```
ATGTGGCGACTACGTCCGGCCGCTGTGGCCTGTGAGGTCTGCCAGTCTTTAGTGAACACAGCTCTGGAA
TAAAAGGAAGTTTACCACTACAAAACTACATCTGGTTTCACGAAGCATTATCATTACATCATCTCTAC
CTTAAAGCTTCAACGACCCCAATTAAGGACATCCTTTACAGCAGTCTCTCTCTGACAAAACCTTCTTTA
CGTAAACTGAAATTTCTCTCCAATTAATATGGCTACCAGCCTCGCAGGAATTTTGGCCAGCAAGATTAG
CTACGAGACTCTTAAACTTCGCTATCTCATACTAGGATCGGCTGTTGGGGTGGCTACACAGCCAAAAA
GACTTTTGTGATCAGTGGAAAGATATGATACCGGACCTTAGTGAATATAAATGGATTGTGCCTGACATTGTG
TGGGAAATTTGATGAGTATATCGATTTTGGTCCAAAATGGTTAGTGAAGTCATAGGAGCTTCTGACCTAC
TTCTCTTGTAGGTTCTCCGGAAGAAACGGCGTTAGAGCAACAGATCGTGGATCTGAAAGTGACAAGCA
TTTTAGAAAGGTGTCAGACAAAGAGAAAATGACCAACTTCAGGAAGAATTCTGCACACTCAGTTGAAG
TATCAGAGAATCTTGAACGATTAGAAAAGGAGAACAAAGAATTGAGAAAATTAGTATTGCAGAAAGATG
ACAAAGGCATTCATCATAGAAAGCTTAAGAAATCTTTGATTGACATGTATTCTGAAGTTCTTGATGTTCT
CTCTGATTATGATGCCAGTTATAATACGCAAGTATCTGCCACGGGTTGTTGTGGTTGGAGATCAGAGT
GCTGGAAGACTAGTGTGTTGGAATGATTGCCAAGCTCGAATATTCCAAGAGGATCTGGGGAGATGA
TGACACGTTTCCAGTTAAGGTGACTCTGAGTGAAGGTCTCACCATGTGGCCCTATTTAAAGATAGTTC
TCGGGAGTTTGTACTTACCAAAGAAGAAGATCTTGACGACATTAAGACATGAAATAGAACTTCGAATGAGG
AAAAATGTGAAAGAAGGCTGTACCGTTAGCCCTGAGACCATATCCTTAAATGTAAGGACCTGGACTAC
AGAGGATGGTGTCTGTTGACTTACCAGGTGTGATTAATACTGTGACATCAGGCATGGCTCCTGACACAAA
GGAAACTATTTTCAGTATCAGCAAAGCTTACATGCAGAATCCTAATGCCATCATACTGTGTTAATCAAGT
GGATCTGTGGATGCTGAACGAGTATTGTTACAGACTTGGTCAGTCAAATGGACCTCATGGAAGGAGAA
CCATATTCGTTTTGACCAAAGTAGACCTGGCAGAGAAAAATGTAGCCAGTCCAAGCAGGATTCAGCAGAT
AATTGAAGGAAAGCTCTTCCAATGAAAGCTTTAGGTTATTTTGTGTTGTAACAGGAAAAGGGAACAGC
TCTGAAAGCATTGAAGCTATAAGAGAATATGAAGAAGAGTTTTTTCAGAAATCAAAGCTCTAAAGACAA
GCATGCTAAAGGCACACCAAGTACTACAAGAAATTTAAGCCTTGACGATCAGACTGCTTTTGGAAAAT
GGTACGAGAGTCTGTTGAACAACAGGCTGATAGTTTCAAAGCAACACGTTTTAACCTTGAAGTGAATGG
AAGAATAACTATCCTCGCTGCGGGAACCTGACCGGAATGAACTATTTGAAAAAGCTAAAAATGAAATCC
TTGATGAAGTTATCAGTCTGAGCCAGGTTACACCAAAACATTGGGAGGAAATCCTCAACAATCTTTGTG
GGAAAGAGTATCAACTCATGTGATTGAAAACATCTACCTCCAGCTGCGCAGACCATGAATTCAGGAACT
TTTAACACCACAGTGGATATCAAGCTTAAACAGTGGACTGATAAACAACCTCCTAATAAAGCAGTAGAGG
TTGCTTGGGAGACCTACAAGAAGAATTTCCCGCTTATGACAGAACCAGAAAGGAAAAGAGCATGATGA
CATATTTGATAAACTTAAAGAGGCTGTTAAGGAAGAAAGTATTAACGACACAAGTGAATGACTTTGCG
GAGGACAGCTTGAGGGTTATTCAACACAATGCTTTGGAAGACCGATCCATATCTGATAAAGCAAGTGGG
ATGCAGCTATTTATTTATGGAAGAGGCTCTGCAGGCTCGTCTCAAGGATACTGAAAATGCAATGAAAA
CATGGTGGGTCCAGACTGGAAAAAGAGGTGTTTAACTGGAAGAATCGGACCCAAGAACAGTGTGTTTAC
AATGAAACCAAGAATGAATGGAGAAGATGTTGAAATGTAATGAGGAGCACCAGCTTATCTTGAAGTG
ATGAAATAACACAGTCCGGAAGAACCTTGAATCCCAGGAGTAGAAGTAGATCCAAGCTTGAATTAAGGA
TACTTGGCATCAAGTTTATAGAAGACATTTTTTAAAAACAGCTCTAAACCATTGTAACCTTTGTCGAAGA
GGTTTTTATTACTACAAAGGCATTTTGTAGATTCTGAGTTGGAATGCAATGATGTGGTCTTGTGTTTGGC
GTATACAGCGCATGCTTGTATCACCAGCAACTTTAAGGCAACAACCTTACAAACTGAAAGTTAGGCG
ATTAGAGAAAAATGTTAAAGAGGATTGGAAGATTTTGTGTAAGATGGTGAAGAAGATTAATTTGCTT
ACTGGTAAACGCGTTCAACTGGCGAAGACCTCAAGAAAGTTAGAGAAATTCAGAAAAACTTGATGCTT
TCATTGAAGCTTTCATCAGGAGAAATAA
```

**5' Read Nucleotide Sequence:**

```
>OriGene 5' read for NM_130832 unedited
NGCCTCACGATAGTAAACCATTCACTATAGGCGGCCGCGCAATTCGCACGAGGCGGACCG
TTCGTGCTGCCCGCTANAAAGGTGAAGTGGTTGTTTCCGTGACGGACTGAGTACGGGTG
CCTGTCAGGCTCTTGCGGAAGTCCATGCGCCATTGGGAGGGCCTCGGCCGCGGCTCTGTG
CCCTTGCTGTGAGGGCCACTTCTGGGTATTCTGGACCGGGAGCCGGGCTGGGGCTC
ACACGGGGGCTCCCGGTGGCCGTCTCGGCGCTGCGTGACCTCCCGCCGGCGGGATGT
GGCGACTACGTGCGGCCGTGTGGCCTGTGAGGTCTGCCAGTCTTTAGTAAAACACAGCT
CTGGAATAAAAGGAAGTTTACCCTACAAAAACTACATCTGGTTTACGAAGCATTATC
ATTCACATCATCCTACCTTAAAGCTTCAACGACCCCAATTAAGGACATCCTTTCAGCAGT
TCTCTTCTGACAAAACCTTCTTTACGTAAACTGAAATTCTCTCCAATTAATATGGCT
ACCAGCCTCGCAGGAATTTTGGCCAGCAAGATTAGCTACGAGACTCTTAAAACTTCGCT
ATCTCATACTANGATCGGCTGTTGGGGTGGCTACACAGCCAAAAGACTTTTGATCAGT
GGAAAGATATGATACCCGACCTTAGTGAATTAATGGATGGTGCCTGACATTGTGTG
GGGAATTTGATGAGTATATCGATTTTGGAGAAATTAACAAACCCCTTCTAAGTTAAAAA
GAACCTGGTAAAGTTAGCCCGACTTTTGACAAGATTGTGAAAACCCCTAACTATTGA
AAGAACTTTTTTACCAAGGTTCTCCGGAAGAAAACGGGGTTTAAAGGAAACAATTCGTG
GGATTTGAAAGATAAAAG
```

**3' Read Nucleotide Sequence:**

```
>OriGene 3' read for NM_130832 unedited
GTACCTGTGCCGAATCNANNATTGAGTATTTTTCTTTTTTTTTTTTTTAAAAATCAAAT
TTCACACAATGGACACTTTTATTAACAAAGTAAAGGCTTAGTGAAAAAGCAGCAAATGAG
ATAGACATTTTAAAGTAAAGAAAGCATTCTTTGCTTGAATGTCTTTAGCCAATTAACAA
ATATTTATTTAAACACATGAAAATGTTGTGATTGTAGTATTGTAATTAATTGCAATAA
ATTGAACTAAATTTTCTTTATTCAGCTGAGAGGGGGATGGTCAACATTACTTTAATTGT
TGAAAATAATTTCTATTTAAATAGTCTTATGAAAGAAAGCCTTTTTCTGATACCTAGTTG
AAATGTTTGATAATATTCTAAATGAAATTAGTCAATTGATTATCCTTAATCTTCTCCTATC
CTGTGTCATAATCCGGTGGCTCTGTCAACAGGAGAAAAACCACTATTAACAGAAAGCCTA
ACGTAAGTATACAACATCTAAAAATAATCAATTTCAAATGGATATAGAGAGTGAGAAAAC
AGCAACTGAATCAAATAGGTAAGCTGGTACTGACTTGGCTTCCAAGGCAAATTTCTTCG
TGGCTATGAAGGGTTGAAATTTCTTTCACTGAACGTTANCAATCCAAATTAANCCTGTTTA
GGGTTCTTCTGTACCCATTTTCTTTTCTATGTGGTGAATATAAACTGAATATCATGGTC
AAATAGTTTCTGGGAATAGGATACTACNGACAATACCATGATTAGCAGGCTACTGTGATT
TTATATACATTGATAACTTTAAACATTTGCTATATAGGTTTATTTTCAACACCTAGCATT
GGATTTCTGAAAAAACTGTACATGGGCACCTCCGTTAATCATAAACAGTGGCCCCCAA
ATAGACACAACAGAAACAAGCTCTTATCTCAGACTGACCTATGGCTTACATTTAATATTC
GATTGGCCTTAGC
```

**Restriction Sites:**

NotI-NotI

**ACCN:**

NM\_130832

**Insert Size:**

4700 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](#)

**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\\_130832.1](#), [NP\\_570845.1](#)

**RefSeq Size:** 6291 bp

**RefSeq ORF:** 6291 bp

**Locus ID:** 4976

**Cytogenetics:** 3q29

**Gene Summary:** The protein encoded by this gene is a nuclear-encoded mitochondrial protein with similarity to dynamin-related GTPases. The encoded protein localizes to the inner mitochondrial membrane and helps regulate mitochondrial stability and energy output. This protein also sequesters cytochrome c. Mutations in this gene have been associated with optic atrophy type 1, which is a dominantly inherited optic neuropathy resulting in progressive loss of visual acuity, leading in many cases to legal blindness. [provided by RefSeq, Aug 2017]

Transcript Variant: This variant (3) is missing exon 4, but contains exon 4b, compared to transcript variant 1. It however, maintains the same reading frame and encodes an isoform (3) of 942 aa. This variant is based on an alternate splice pattern characterized by Delettre et al (2001, PMID: 11810270), but the complete 5' to 3' exon combination is inferred and not supported at the time of review by a single long cDNA. Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.