

Product datasheet for **RR205659**

Opa1 (NM_133585) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Opa1 (NM_133585) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Opa1
Synonyms:	MGC124921
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>RR205659 representing NM_133585
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGTGGCGAGCAGGTCGGGCTGCCCTGGCCTGTGAAGTCTGCCAATCCTTAGTGAAGCACAGCTCTGGAG
 TACAAAGAAACGTACCGCTCCAAAAACTGCATCTGGTTTTCCGAAGTATTTATCGTTCACATCATCCTGC
 CCTCAAGCTTCAAAGACCCCAATTAAGGACATCTTTTCAGCAATTCTCTCTCTAACTAACCTTTCTTTA
 CATAAATTGAACTTTCTCCAATAAATATGGCTACCAACCCCGCAGGAATTTTGGCCAGCAAGGTTAG
 CTGCAAGGCTCTTAAACTTCGATATATTACTGGGATCTGCTGTTGGAGGTGGCTATACAGCCAAAA
 AACCTTCGATGAATGAAAGATATGATACCAGACCTTAGTACTATAAGTGGATTGTGCCTGACTTTATA
 TGGGAAATTGATGAGTATATTGATTTGGAGAAAATCAGAAAAGCCCTCCAGTTCAGAAGACCTCGCCA
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 ACCTGGAGAAACAGCATTAGAGCAACAGATCATGGATCCGAAAGTGACAAGCACTATAGGAAGGTGCA
 GACAAAGAAAAGATTGACCAACTTCAGGAAGAATTCTGCATACTCAGTTAAAGTATCAGAGGATCCTGG
 AGCGTTTGGAGAAGGAGAACAAAGAGTTGAGGAAGTTGGTGTGCAGAAGGATGACAAAGGCATCCACCA
 CAGGAAGCTCAAGAAATCTCTGATCGATATGTATTCTGAAGTCTTGATGTCCTTTCTGACTATGATGCC
 AGCTACAATACCCAAGATCATCTGCCACGGGTTGTTGGGTTGGAGATCAGAGTCTGAAAAACAAGTG
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 GAAGGTGACTCTCAGTGAAGGCCCTCACCACGTGGCCTTGTTAAAGACAGCTCCCGGAGTTTGACCTC
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 GGACTTGCCTGGTGTATCAACACTGTGACATCAGGCATGGCTCCCGACACAAAGGAAACTATTTTCAGT
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 CCAGGAGAAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RR205659 representing NM_133585
 Red=Cloning site Green=Tags(s)

MWRAGRAALACEVCQSLVKHSSGVQRNVLQKLHLVSRSIYRSHHPALKLQRPQLRTSFQQFSSLTNLSL
 HKLKLSPTKYGYQPRNFWPARLAARLLKLYIILGSVGGGYTAKKTFDEWKDMIPDLSDYKWIVPDFI
 WEIDEYIDLEKIRKALPSSDLANFAPDLDKIAESLSLLKDFFTAGTPGETAFRATDHGSESDKHRYKVS
 DKEKIDQLQEELLHTQLKYQRILERLEKENKELRKLVLQKDDKGIHHRKLLKSLIDMYSEVLDVLSYDA
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 ISKAYMQNPNAIILCIQDGSVDAERSIVTDLVSQMDPHGRRTIFVLTKVDLAEKNVASPSRIQQIIEGKL
 FPMKALGYFAVVTGKGNSSIEAIREYEEFFQNSKLLKTSMLKAHQVTRNLSLAVSDCFWKMVRESV
 EQQADSFKATRFNLETEWKNNYPRLRELDRELFEKAKNEILDEVISLSQVTPKHWEIILQQSLWERVST
 HVINIYLPAAQTMNSGTFNTTVDIKLQWTDKQLPNKAVEVAWETLQDEF SRFMTEPKGKEHDDIFDKL
 KEAVKEESIKRHKW NDF AEDSLRVIQHNALEDRSISDKQQWDAAIYFMEALQGR LKDTENAIENMIGPD
 WKKRWIYWK NRTQE QCVHNETKNELEKMLKVND EHPAYLASDEITTVRKNLESRGVEVDP SLIKDTHQV
 YRRHFLKTALNHCNLCRRGFYYQ RHFIDSELECNDVVLFWRIQRMLAITANTLRQQLTNTVEVRRLEKNV
 KEVLEDF AEDGEEKVKLLTGKRVQLAEDLKKVREIQEKLDAFIEALHQEK

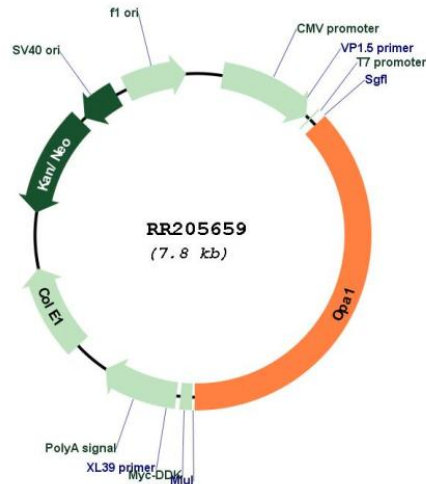
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_133585

ORF Size: 2880 bp

OTI Disclaimer: 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_133585.3](#), [NP_598269.3](#)

RefSeq Size: 3200 bp

RefSeq ORF: 2883 bp

Locus ID: 171116

UniProt ID: [Q2TA68](#)

Cytogenetics: 11q22

MW: 111.3 kDa

Gene Summary: Dynamin-related GTPase that is essential for normal mitochondrial morphology by regulating the equilibrium between mitochondrial fusion and mitochondrial fission (PubMed:16778770). Coexpression of isoform 1 with shorter alternative products is required for optimal activity in promoting mitochondrial fusion. Binds lipid membranes enriched in negatively charged phospholipids, such as cardiolipin, and promotes membrane tubulation. The intrinsic GTPase activity is low, and is strongly increased by interaction with lipid membranes (By similarity). Plays a role in remodeling cristae and the release of cytochrome c during apoptosis (By similarity). Proteolytic processing in response to intrinsic apoptotic signals may lead to disassembly of OPA1 oligomers and release of the caspase activator cytochrome C (CYCS) into the mitochondrial intermembrane space (By similarity). Plays a role in mitochondrial genome maintenance (By similarity).[UniProtKB/Swiss-Prot Function]