**OriGene Technologies, Inc.**
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

# Product datasheet for RC209058

## AFG3L2 (NM_006796) Human Tagged ORF Clone

### Product data:

| | |
|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | AFG3L2 (NM_006796) Human Tagged ORF Clone |
| **Tag:** | Myc-DDK |
| **Symbol:** | AFG3L2 |
| **Synonyms:** | OPA12; SCA28; SPAX5 |
| **Mammalian Cell Selection:** | Neomycin |
| **Vector:** | pCMV6-Entry (PS100001) |
| **E. coli Selection:** | Kanamycin (25 ug/mL) |

**ORF Nucleotide Sequence:**

>RC209058 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCGCACCGCTGTTTGCGGCTGTGGGGCCGGGGCGGCTGCTGGCCCCGCGGCCTACAGCAGCTCCTCG
TGCCTGGCGGCGTGGGCCCGGGCGAGCAGCCCTGCCTCCGGACGCTTTACCGATTTGTTACAACTCAAGC
AAGGGCCAGCAGAAATTCTCTTTTGACAGATATAATTGCTGCTTATCAAAGATTCTGTTCTCGACCCCCA
AAAGGATTTGAAAAATACTTTCCTAATGGAAAAAATGGAAAAAAAGCTAGTGAACCTAAAGAAGTTATGG
GAGAGAAAAAAGAATCAAAGCCAGCTGCTACCACACGCTCTTCTGGAGGAGGAGGTGGTGGCGGTGGAAA
ACGAGGTGGCAAGAAAGATGATTCTCACTGGTGGTCCAGGTTTCAGAAGGGTGACATTCCATGGGACGAC
AAGGATTTCAGGATGTTCTTCCTCTGGACTGCTCTGTTCTGGGGTGGAGTCATGTTTTACTTGCTGCTCA
AGAGATCCGGGAGAGAAATCACTTGGAAGGACTTTGTCAATAACTATCTTTCAAAAGGAGTAGTAGACAG
ATTGGAAGTCGTCAACAAGCGTTTTGTTCGAGTGACCTTTACACCAGGAAAAACTCCTGTTGATGGGCAA
TACGTTTGGTTTAATATTGGCAGTGTGGACACCTTTGAACGGAATCTGGAAACTTTACAGCAGGAATTGG
GCATAGAAGGAGAAAATCGGGTGCCTGTTGTCTACATTGCTGAAAGTGATGGCTCTTTTCTGCTGAGCAT
GCTGCCTACGGTGCTCATCATCGCCTTCTTGCTCTACACCATCAGAAGAGGGCCTGCTGGCATTGGCCGG
ACAGGCCGAGGGATGGGCGGACTCTTCAGTGTCGGAGAAACCACTGCCAAGGTCTTAAAGGATGAAATTG
ATGTGAAGTTCAAAGATGTGGCTGGCTGTGAGGAGGCCAAGCTAGAGATCATGGAATTTGTGAATTTCTT
GAAAAACCCAAAGCAGTATCAAGACCTAGGAGCAAAAATCCCAAAGGGTGCCATTCTCACTGGTCCTCCA
GGCACTGGGAAGACGCTGCTAGCTAAGGCCACAGCCGGAGAAGCCAATGTCCCCTTCATCACCGTTAGTG
GATCTGAGTTTTTGGAGATGTTCGTTGGTGTGGGCCCTGCTAGAGTCCGAGACTTATTTGCCCTTGCTCG
GAAGAATGCCCCTTGCATCCTCTTCATCGATGAAATCGATGCGGTGGGAAGGAAGAGAGGAAGAGGCAAC
TTTGGAGGGCAGAGTGAGCAGGAGAACACACTCAACCAGCTGCTGGTGGAGATGGATGGTTTTAATACAA
CAACAAATGTCGTCATTTTGGCCGGCACCAATCGACCAGATATCCTGGACCCCGCGCTACTTAGGCCGGG
GCGTTTCGACAGGCAGATCTTTATTGGACCACCAGACATAAAAGGAAGAGCTTCTATTTTCAAAGTTCAT
CTCCGACCGCTAAAACTGGACAGTACCCTGGAGAAGGATAAATTGGCAAGAAAACTGGCATCTTTAACTC
CAGGGTTTTCAGGTGCTGATGTTGCTAATGTCTGTAATGAAGCTGCGTTGATTGCTGCAAGGCATCTGTC
AGATTCCATAAATCAGAAACACTTTGAACAGGCAATTGAGCGAGTGATTGGTGGCTTAGAGAAGAAAACG
CAGGTTCTGCAGCCTGAGGAGAAGAAGACTGTGGCATACCACGAAGCAGGCCATGCGGTTGCCGGCTGGT
ATCTGGAGCACGCAGACCCGCTTTTAAAGGTATCCATCATCCCACGTGGCAAAGGACTAGGTTATGCTCA
GTATTTACCAAAAGAACAATACCTCTATACCAAAGAGCAGCTCTTGGATAGGATGTGTATGACTTTAGGT
GGTCGAGTCTCTGAAGAAATCTTCTTTGGAAGAATTACAACTGGTGCTCAAGATGACTTGAGAAAAGTAA
CTCAGAGTGCATATGCCCAAATTGTTCAGTTTGGCATGAATGAAAAGGTTGGGCAAATCTCCTTTGACCT
CCCACGTCAGGGGGACATGGTATTGGAGAAACCTTACAGTGAAGCCACTGCAAGATTGATAGATGATGAA
GTACGAATACTTATTAATGATGCTTATAAAAGAACAGTAGCTCTTCTCACAGAAAAGAAAGCTGACGTGG
AGAAGGTTGCTCTTCTGTTGTTAGAAAAAGAAGTATTAGATAAGAATGATATGGTTGAACTTTTGGGCCC
CAGACCATTTGCGGAAAAATCTACCTATGAAGAATTTGTGGAAGGCACTGGCAGCTTGGATGAGGACACC
TCACTTCCAGAAGGCCTTAAGGACTGGAACAAGGAGCGGGAAAAGGAGAAAGAGGAGCCCCCGGGTGAGA
AAGTTGCCAAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC209058 protein sequence
Red=Cloning site Green=Tags(s)

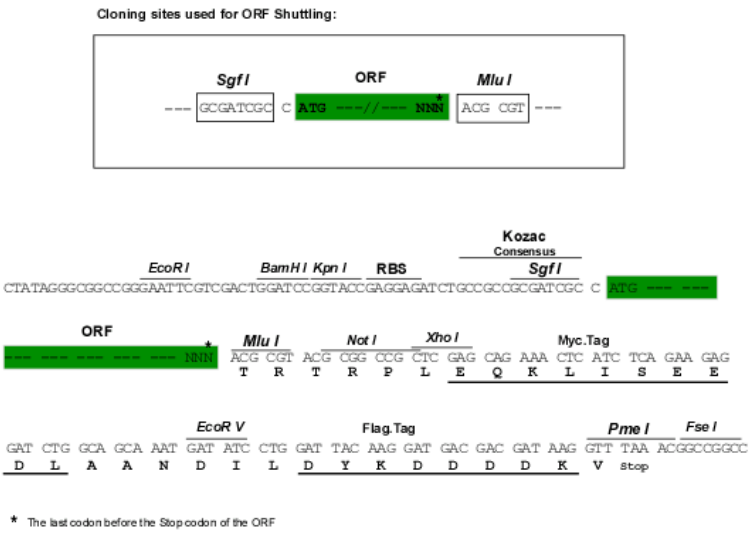
MAHRCLRLWGRGGCWPRGLQQLLVPGGVGPGEQPCLRTLYRFVTTQARASRNSLLTDIIAAYQRFCSRPP
KGFEKYFPNGKNGKKASEPKEVMGEKKESKPAATTRSSGGGGGGGGKRGGKKDDSHWWSRFQKGDIPWDD
KDFRMFFLWTALFWGGVMFYLLLKRSGREITWKDFVNNYLSKGVVDRLEVVNKRFVRVTFTPGKTPVDGQ
YVWFNIGSVDTFERNLETLQQELGIEGENRVPVVYIAESDGSFLLSMLPTVLIIAFLLYTIRRGPAGIGR
TGRGMGGLFSVGETTAKVLKDEIDVKFKDVAGCEEAKLEIMEFVNFLKNPKQYQDLGAKIPKGAILTGPP
GTGKTLLAKATAGEANVPFITVSGSEFLEMFVGVGPARVRDLFALARKNAPCILFIDEIDAVGRKRGRGN
FGGQSEQENTLNQLLVEMDGFNTTTNVVILAGTNRPDILDPALLRPGRFDRQIFIGPPDIKGRASIFKVH
LRPLKLDSTLEKDKLARKLASLTPGFSGADVANVCNEAALIAARHLSDSINQKHFEQAIERVIGGLEKKT
QVLQPEEKKTVAYHEAGHAVAGWYLEHADPLLKVSIIPRGKGLGYAQYLPKEQYLYTKEQLLDRMCMTLG
GRVSEEIFFGRITTGAQDDLRKVTQSAYAQIVQFGMNEKVGQISFDLPRQGDMVLEKPYSEATARLIDDE
VRILINDAYKRTVALLTEKKADVEKVALLLLEKEVLDKNDMVELLGPRPFAEKSTYEEFVEGTGSLDEDT
SLPEGLKDWNKEREKEKEEPPGEKVAN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** https://cdn.origene.com/chromatograms/mk6230_c03.zip

**Restriction Sites:** SgfI-MluI

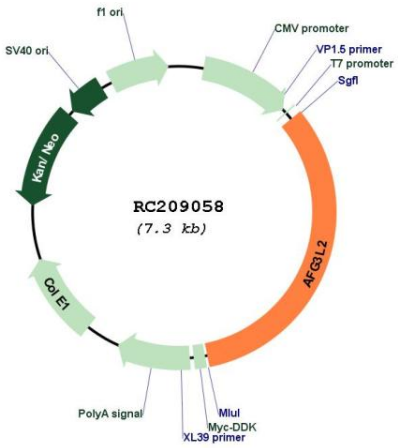
**Cloning Scheme:**



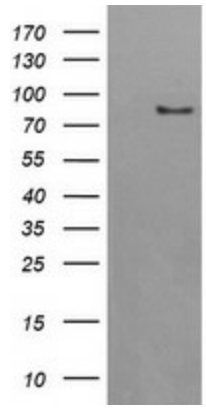

| | |
|---|---|
| **ACCN:** | NM_006796 |
| **ORF Size:** | 2391 bp |
| **OTI Disclaimer:** | The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (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.<br>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.<br>3. Close the tube and incubate for 10 minutes at room temperature.<br>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.<br>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_006796.3 |
| **RefSeq Size:** | 3223 bp |
| **RefSeq ORF:** | 2394 bp |
| **Locus ID:** | 10939 |
| **UniProt ID:** | Q9Y4W6 |
| **Cytogenetics:** | 18p11.21 |
| **Domains:** | Peptidase_M41, AAA, AAA |
| **Protein Families:** | Druggable Genome, Protease, Transmembrane |
| **MW:** | 88.6 kDa |
| **Gene Summary:** | This gene encodes a protein localized in mitochondria and closely related to paraplegin. The paraplegin gene is responsible for an autosomal recessive form of hereditary spastic paraplegia. This gene is a candidate gene for other hereditary spastic paraplegias or neurodegenerative disorders. [provided by RefSeq, Jul 2008] |

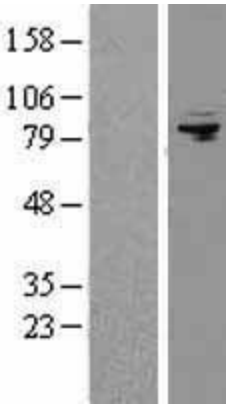
## Product images:




Circular map for RC209058




HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY AFG3L2 (Cat# RC209058, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-AFG3L2 (Cat# [TA504858]). Positive lysates [LY416420] (100ug) and [LC416420] (20ug) can be purchased separately from OriGene.




Western blot validation of overexpression lysate (Cat# [LY416420]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC209058 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).