

## Product datasheet for **MG210733**

### Afg3l2 (NM\_027130) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Afg3l2 (NM_027130) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Afg3l2
Synonyms:	2310036I02Rik; AW260507; Emv66; par
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>MG210733 representing NM\_027130  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCACCCTGCCTGCTGTGGAGCCGGGCGGCTGCCGTCGCGCCTTCTCCCCTGCTCGTGC  
 CCAGAGGTTGCCTGGGTCGGACCGCGGCCCTGCCTCCGTACGCTCTATCAATATGCTACTGTCCAGAC  
 AGCAAGCAGCAGGCGTTCTCTGCTGAGGGATGTAATTGCTGCTTATCAAAGATTCTGTTCTCGACCTCCC  
 AAAGGATTTGAAAAGTACTTTCTAATGGGAAAAACGGAAAAAGGCCAGTGAGCCTAAGGAGGCTGTTG  
 GAGAAAAAAGAACCACAGCCCTCGGGCCCCAGCCTTCTGGAGGTGCAGGTGGTGGGGAGGGGAAGCG  
 CCGTGGAAGAAAGAAGATTCTCACTGGTGGTCCAGGTTCCAGAAGGGTGACTTCCCATGGGATGACAAG  
 GATTTCAAGATGACTTTCTCTGGACTGCTTTTTTTGGGGTGGAGTCATGATTTACTTCGTGTTCAAGA  
 GCTCTGGGAGAGAAATCACGTGGAAGACTTTGTCAATAACTATCTTTCTAAGGGCGTGGTGACAGACT  
 AGAAGTTGTCAACAAGCGTTTTGTTCGTGTGACCTTTACACCAGGAAAACTCCGGTTGATGGGCAATAC  
 GTCTGGTTAATATTGGCAGTGTGACACATTTGAGCGGAATCTGGAGACTTTGCAGCAAGAATTGGGCA  
 TAGAAGGGGAGAACC GGCTCCCTGTGGTTATATTGCTGAGAGCGATGGCTCCTTCTGCTGAGCATGTT  
 GCCCACGTA CTATTATCGCTTTTCTACTCTACACCAATAAGAAGAGGGCCCGCTGGCATTGGTCCGACC  
 GGCCGGGGAATGGGTGGACTCTTCAGCGTTGGGAAAACACAGCCAAGGTCTTAAAGGATGAGATAGATG  
 TGAAGTTAAAGATGTGGCTGGCTGTGAGGAGGCCAAGCTAGAAATAATGGAATTCGTGAATTTCTTGAA  
 AAACCCAAAGCAATATCAAGACCTAGGAGCAAAAATCCCAAAGGGTGCCATTCTCACCGGTCCCCAGGT  
 ACTGGGAAGACGCTGCTAGCTAAGGCCACAGCTGGAGAAGCCAATGTCCCCTTTATCACTGTGAGCGGAT  
 CTGAGTTTCTGGAGATGTTTGTGGCGTTGGTCCAGCCAGAGTCCGAGACTTATTTGCCCTTGTCTCGGAA  
 GAATGCGCCTTGCACTTCTTTCATTGATGAGATTGATGCTGTGGGAAGGAAGCGCGGAGAGGCACTTC  
 GGTGGGACAGAGCAGCAGGAGAACAACACTCAACCAGCTGCTTGTGGAGATGGACGGCTTCAACACAACCA  
 CCAATGTGGTCATCCTGGCAGGCACAAATCGACCAGACATCCTGGATCCAGCTCTGTTGAGACCAGGCCG  
 CTTTGACAGGCAGATTTTTATTGGACCCCGAGACATAAAAGGACGAGCCTCAATCTTCAAAGTTCACCTT  
 CGACCATTGAAGCTGGACAGTGCCTTGGAAAAAGATAAATTGGCCAGAAAAGTGGCGTCTTAACTCCAG  
 GGTTCAGGCGCTGATGTTGCCAATGTCTGCAATGAAGCTGCTTTGATTGCTGCAAGACACCTTCAGA  
 TGCCATTAATGAGAAGCACTTCGAACAAGCGATTGAGCGAGTGATTGGAGGCTTGGAGAAAAAACCCAA  
 GTTCTGCAGCCTGAGGAGAAGAAGACGGTGGCTTACCACGAAGCAGGCCATGCGGTGCTGGCTGGTATC  
 TGGAGCATGCAGACCCACTCTTAAAGGTCTCCATCATCCCGCGTGGCAAGGGGCTGGGCTATGCTCAGTA  
 CTTGCCAAAGGAGCAGTATCTGTACACAAGGAGCAGCTGCTGGACAGGATGTGCATGACTCTGGGCGGC  
 CGTGTCTCCGAGGAGATCTTCTTTGGGAGAATTACAACCGGTGCCAGGACGACTTGAGGAAGGTTACCC  
 AGAGTGCCTATGCCAGATCGTTTCAAGTTGGCATGAACGAGAAAGTGGGGCAGATCTCCTTTGACCTCCC  
 ACGACAGGGGGACATGGTGTAGAGAAGCCTTACAGTGAGGCCACTGCGAGGATGATAGACGATGAAGTG  
 AGGATACTCATCAGCGATGCCTACAGAAGGACGGTGGCTCTTCTCACAGAGAAGAAGGCTGACGTGGAGA  
 AGGTCGCTCTTACTGTTAGAAAAGGAAGTCTTAGACAAGAATGACATGGTCCAGCTTCTCGGTCCCAG  
 ACCATTTACAGAAAAGTCCACATATGAAGAATTTGTGGAAGGCACTGGCAGCTTAGACGAGGACACTTCT  
 CTTCTGAAGGCCTTCAAGATTGGAACAAGGAGCGGGAGAAGGAGGAGAAGAAGGAGAAGGAGAAGGAGG  
 AGCCGCTGAATGAGAAGGTTGTCAGC

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >MG210733 representing NM\_027130  
 Red=Cloning site Green=Tags(s)

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MAHRCLLLWSRGGCRRGLPPLLVPRGCLGPDRRPCLRTLQYATVQTASSRRSLLRDVIAAYQRFCSRPP
KGFEEKYFPNGKNGKKASEPKEAVGEKKEPQPSGPQPSGGAGGGGGKRRGKKEDSHWWSRFQKGDFPWDDK
DFRMYFLWTALFWGGVMIYFVKSSGREITWKDFVNNYLSKGVVDRLEVVKRFRVVTFTPGKTPVDGQY
VWFNIGSVDTFERNLETQQELGIEGENRVPVYIAESDGSFLLSMLPTVLIIFLLYTIIRRGPAIGRT
GRGMGGLFSVGETTAKVLKDEIDVKFKDVAGCEEAKLEIMEFVNFLKNPKQYQDLGAKIPKGAILTGPPG
TGKTL LAKATAGEANVPFITVSGSEFLEMFGVGPVAVRDLFALARKNAPCILFIDEIDAVGRKRGRGNF
GGQSEQENTLNQLLVEMDGFNTTNNVILAGTNRPDILDPALLRPRGFRDQIFIGPPDIKGRASIFKVHL
RPLKLDKSALEKDKLARKLASLTPGFSGADVANCNEAALIAARHLSDAINEKHFEQAIERVIGGLEKKTQ
VLQPEEKKT VAYHEAGHAVAGWYLEHADPLLKVSIIIPRGKGLGYAQYLPKEQYLTYKEQLLDRMCMTLGG
RVSEEIFFRITGAQDDLKVTQSAYAQIVQFGMNEKVGQISFDLPRQGMVLEKPYSEATARMIDDEV
RILISDAYRRTVALLTEKKADVEKVALLLLEKEVLDKNDMVQLLGPRPFTEKSTYEEFVEGTGSLDEDTSL
LPEGLQDWNKEREKEEKEEKEEPLNEKVVS
  
```

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Kozac  
Consensus

EcoR I   BamH I   Kpn I   RBS   Sgf I   Asc I

CTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGSAGATCTGCCGCCGATCGCCGGCGGCCAGATCT

Hind III   Nhe I   Rsr II   Mlu I   Not I   Xho I   GFP Tag

CAAGCTTAAGCTAGCTAGCGGACCG   ACG CGT   ACG CGG CCG   CTC GAG   ATG GAG AGC GAC --- --- ---

T R T R P L E   M E S D - - -

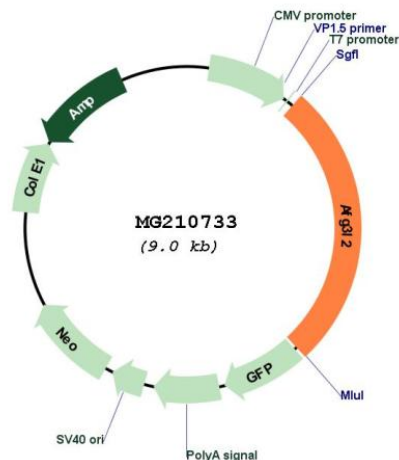
  

Pme I   Fse I

--- --- GAA GAA AGA GTT TAA ACGGCCGGCCGGGAGCT

- - - E E R V Stop

## Plasmid Map:



ACCN: NM\_027130

ORF Size: 2406 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\\_027130.2](#)

RefSeq Size: 3086 bp

RefSeq ORF: 2409 bp

Locus ID: 69597

UniProt ID: [Q8JZQ2](#)

Cytogenetics: 18 E1

**Gene Summary:**

ATP-dependent protease which is essential for axonal and neuron development (PubMed:18337413, PubMed:27642048). In neurons, mediates degradation of SMDT1/EMRE before its assembly with the uniporter complex, limiting the availability of SMDT1/EMRE for MCU assembly and promoting efficient assembly of gatekeeper subunits with MCU (By similarity). Required for the maturation of paraplegin (SPG7) after its cleavage by mitochondrial-processing peptidase (MPP), converting it into a proteolytically active mature form.[UniProtKB/Swiss-Prot Function]