

## Product datasheet for **MG212040**

### Fmn2 (BC094606) Mouse Tagged ORF Clone

#### Product data:

|                           |   |
|---------------------------|---|
| Product Type:             | Expression Plasmids   |
| Product Name:             | Fmn2 (BC094606) Mouse Tagged ORF Clone  |
| Tag:                      | TurboGFP  |
| Symbol:                   | Fmn2  |
| Synonyms:                 | AU024104  |
| Mammalian Cell Selection: | Neomycin  |
| Vector:                   | pCMV6-AC-GFP (PS100010)   |
| E. coli Selection:        | Ampicillin (100 ug/mL)  |
| ORF Nucleotide Sequence:  | >MG212040 representing BC094606, <b>codon optimized</b> .<br>Due to the complexity of BC094606, the ORF clone is codon optimized for mammalian Expression.<br>The nucleotide sequence differs from the reference sequence, yet the amino acid sequence remains identical. |

Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGGTAAATCAGGATGGGAACTGAAGCGCTCTGCTGGCGACGCATCACACGAAGGCGGTGGAGCCGAGG  
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CGGTAAGGGTGGCGGGGGAGTGGGAGACATCTAAGAAGAAGAGCAAGTCTGACTCCCAGCTTCTGTCT  
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TCGACAGCCAGGCCCTGCCATTGGAGAGCTGGACTCAGCACACTCAATCGTAACTAAAACACCTGACCT  
TAGCCTGTCAGCCGAAGAAACAGGCCTGAGCGATACCGAGTGCCTGACCCGTTTGAGGTATCCACCCC  
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CTTCAAGATTCTGAAGAGCCCGCTGCCCCCCACTGCCATAAGCCCCAACCTGGGGCATTCTGGGTCT  
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GAGACTCCAGGCTACGCAACAGCTCCAGTGCCGTTACTGATAGTCTGTCTCCCCAGCATTACCTTTTC  
CTGAGGCCGGCCAGGGGAAGGTGCCGAGGTGTCCCGTTGCCGACCGGTGATACAGATGAAGAATG  
TGAAGAGGACGCATTCGAGGATGCACCAAGGGTTCCCCGGCGAGGAATGGGTCCCCGAGGTGGAGGAA  
GCTTACAACGGTTGGAGAAGGAACCCGAGGAGGCATGCGCGAGAGCATTACTAGTGTGTGGTGTCCC



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TCCCCGGGAGCCCTGCCCTTACCACGCTGCTTTAAACCGTACCCACTCATTACGCCGTGCTATATTA  
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 GGCGGATCTCCGTTCTGGCCGAAAGGCGCCGGGCTCCAGCCACGGCTGACGGTCCAGAACGTGT  
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 CAAGAACGGGTCAAAGAGGCTGAAGAAGTGTGTGCCAAAAGAAGGGGAAAAGCCTCTATAAAGTGAAGC  
 CACGACACGATAGCGGCATTAAGGCTAAAATCAGTATGAAGACT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>MG212040 representing BC094606  
 Red=Cloning site Green=Tags(s)

MGNQDGKLRKRSAGDASHEGGGAEDAAGPRDAEITKKASGSKKALGKHGKGGGSGETSKKKSKSDSRASV  
 FSNLRIRKNTLTKGKACDSREDVLDLSDQALPIGELDSAHSIVTKTPDLSLAEETGLSDTECADPFEVIHP  
 GASRPAEAGVGIQATAEDLETAAGAQQDQRTSSGSDTDIYSFHSATEQEDLLSDIQQAIRLQQQQQKLL  
 LQDSEEPAAPTAISPPQGAFLGLDQFLGPRSEAEKDTVQALPVRPDLPETTKSLVPEHPPSSGSHLTS  
 ETPGYATAPSAVTDLSLSPAFTFPEAGPGEGAAGVPVAGTGDTEEECEDAFEDAPRGSPEGEEWPEVEE  
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 KKRDPDVSRSRRTALASAAAPAKKHLREGGLTGGLSRSADWTEELGVRTPGAGGSVHLLGRGATADDSG  
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 QNAGSSSAPFDQDQLYTWAAVSQPTHSMQYSEGQFPRREPSMWPSSKLPPEEPSPKDVTDEPKSSILESP  
 KKCSNGVQQEVDVKSEGOATVIQQLEQTIEDLRTKIAELEKQYPALDLEGPRGLSGLENGLTASADVSL  
 DALVLHGKVAQPPRTLEAKSIQTSPTTEGRILTLPPPAPPEGLLGSAAAASGESALLTSPSGPQTKFCS  
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 PPLPTGLFGLGMNQDRVARKQLIEPCRPMKPLYWTRIQHLHDKRDSPLIWEKIEEPSIDCHEFEELFSK  
 TAVKERKKPISDTISKTKAKQVVKLLSNKRSQAVGILMSSLHLDKMDIQHAVVNLDNSVDLETLQALYE  
 NRAQSDELEKIEKHSRSSKDKENAKSLDKPEQFLYELSLIPNFSERVFCILFQSTFSESICSIKRLLELL  
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 NFDEDAGKEQCVFPLAEPQELFQASQMKFEDFQKDLRKLKDLKACEAEAGKVYQVSSAEHMQPFKENME  
 QFISQAKIDQESQEAAL TETHKCFLETTAYYFMKPKLGEKEVSPNVVFFSVWHEFSSDFKDAWKENKLLIL  
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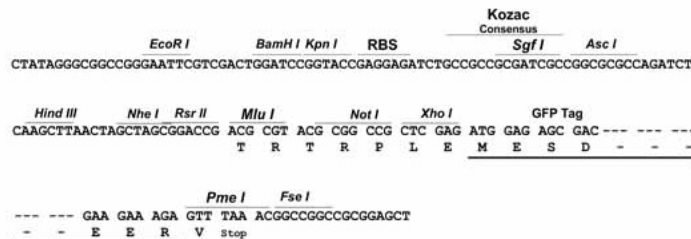
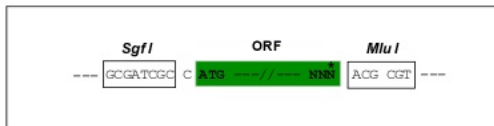
TRTRPLE – GFP Tag – V

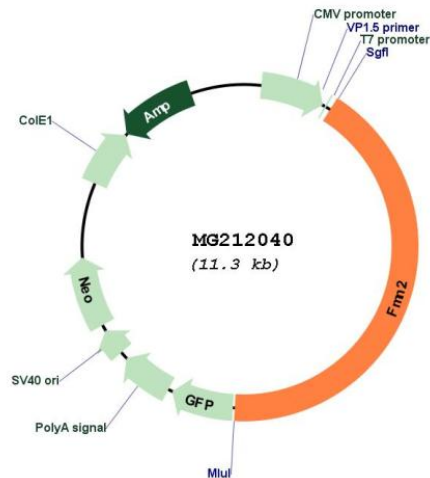
Restriction Sites:

Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



**Plasmid Map:**


**ACCN:** BC094606

**ORF Size:** 4734 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:** [BC094606](#), [AAH94606](#)

**RefSeq Size:** 5797 bp

**RefSeq ORF:** 4736 bp

**Locus ID:** 54418

**Cytogenetics:** 1 81.04 cM

**Gene Summary:** Actin-binding protein that is involved in actin cytoskeleton assembly and reorganization (PubMed:18848445, PubMed:21620703). Acts as an actin nucleation factor and promotes assembly of actin filaments together with SPIRE1 and SPIRE2 (PubMed:18848445, PubMed:21620703). Involved in intracellular vesicle transport along actin fibers, providing a novel link between actin cytoskeleton dynamics and intracellular transport (PubMed:21983562). Required for asymmetric spindle positioning, asymmetric oocyte division and polar body extrusion during female germ cell meiosis (PubMed:12447394, PubMed:18848445, PubMed:19062278, PubMed:21620703). Plays a role in responses to DNA damage, cellular stress and hypoxia by protecting CDKN1A against degradation, and thereby plays a role in stress-induced cell cycle arrest (By similarity). Also acts in the nucleus: together with SPIRE1 and SPIRE2, promotes assembly of nuclear actin filaments in response to DNA damage in order to facilitate movement of chromatin and repair factors after DNA damage (By similarity). Protects cells against apoptosis by protecting CDKN1A against degradation (By similarity).[UniProtKB/Swiss-Prot Function]