

## Product datasheet for **RG205962**

### **GFM2 (NM\_032380) Human Tagged ORF Clone**

#### **Product data:**

|                           |                                                                          |
|---------------------------|--------------------------------------------------------------------------|
| Product Type:             | Expression Plasmids                                                      |
| Product Name:             | GFM2 (NM_032380) Human Tagged ORF Clone                                  |
| Tag:                      | TurboGFP                                                                 |
| Symbol:                   | GFM2                                                                     |
| Synonyms:                 | EF-G2mt; EFG2; hEFG2; mEF-G 2; MRRF2; MST027; MSTP027; RRF; RRF2; RRF2mt |
| Mammalian Cell Selection: | Neomycin                                                                 |
| Vector:                   | pCMV6-AC-GFP (PS100010)                                                  |
| E. coli Selection:        | Ampicillin (100 ug/mL)                                                   |



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**ORF Nucleotide  
Sequence:**

>RG205962 representing NM\_032380  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGC**

ATGTTGACCAACTTGAGGATATTTGCAATGAGTCATCAGACAATACCCAGTGTGTATTAATAATATAT  
 GCTGCTATAAAATAAGAGCAAGTTTAAAAAGATTAAAGCCACATGTGCCGCTTGGAAGAAATTGCAGTTC  
 TCTACCAGGCTTAATAGGAAATGATATCAAATCCATTCTTCATCATCAATCCTCCCATAGCTAAATC  
 CGTAATATTGGAATTATGGCTCATATTGATGCAGGCAAACTACCACCACAGAAAGAATATTGTACTATT  
 CCGGATATACAAGATCACTGGGAGATGTTGATGATGGAGACACAGTGACAGATTCATGGCCCAAGAGCG  
 AGAAAGAGGCATTACTATTCAATCAGCTGCTGTTACATTTGATTGGAAAGGTTATAGAGTCAATCTAATT  
 GATACACCAGGTCATGTGGACTTTACCTTGAGGTTGAACGGTGCCTAAGAGTGTGGATGGTGCAGTGG  
 CTGATTTTGATGCCTCTGCTGGTGTAGAGGCCAGACTCTCACAGTATGGAGGCAAGCTGATAAACACAA  
 TATACCTCGAATCTGTTTTTAAACAAGATGGACAAAAGTGGAGCAAGCTTTAAGTATGCAGTTGAAAGC  
 ATCAGAGAGAAGTTAAAGGCAAGCCTTTGCTTTTACAGTTACCAATTGGTGAAGCCAAAAGCTTTCAAAG  
 GAGTGGTGGATGTAGTAATGAAAGAAAACTTCTTTGGAATTGCAATTCAAATGATGGAAAAGACTTTGA  
 GAGAAAGCCCCTCTTGAAATGAATGATCCTGAATTGCTGAAGGAAACAAGTGAAGCAAGGAATGCCTTA  
 ATTGAACAAGTTGCAGATTTGGATGATGAATTTGCTGACTTGGTTTTAGAAGATTTAGTGAGAATTTTG  
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 GCTTTGTGGAAGTGCCCTGAAAAACAAAGGGATACAGCCCTTGTTAGATGCTGTTACTATGTACTTACCT  
 TCACCTGAAGAGCGTAACATGAATTTCTGCAGTGGTATAAGGATGACTTATGTGCATTGGCATTAAAG  
 TTCTCCATGACAAGCAGCGAGGACCACTGGTTTTTATGCGCATTTACTCAGGCACTATAAAACCCAGTT  
 GGCCATTCATAATATTAATGAAAAGTGCACGGAGAGAATAAGTCGCTCTGCTTTTGCCGTTTGCTGACCAA  
 CATGTAGAAATCCATTCTGACTGCTGGTAACATTGCTTTGACTGTTGGGCTTAAACATACTGCCACTG  
 GAGACACCATTGTCTCATCCAAGTCCAGTGCATTAGCTGCAGCTCGTAGAGCCGAACGGGAGGGAGAAAA  
 GAAGCACAGACAAAACAATGAAGCAGAGAGACTTTTATTGGCTGGAGTGGAGATTCCAGAACCTGTTTTT  
 TTCTGTACCATAGAACCCCATCACTGTCTAAGCAGCCAGATTTGGAACATGCGTTGAAATGTCTTCAGC  
 GTGAAGATCCCAGTTTGAAGTGAGGCTAGATCCTGACTCTGGACAACTGTTCTGTGTGGTATGGGGGA  
 GTTACATATAGAGATTATTCATGATCGAATCAAGAGGGAATATGGACTGGAGACCTATCTCGGGCCTCTC  
 CAGGTGGCATATCGAGAGACCATCCTAACTCAGTTTCGTGCCACAGATACCTTAGATAGAACTTTAGGAG  
 ACAAAGGCATCTGTGACTGTAGAAGTGGGAGCAAGGCCAATTGAAACATCATCTGTTATGCCTGTGAT  
 TGAGTATGCTGAAAGTATCAATGAAGGCCTTTTGAAGGCTCACAAGAGGCCATTGAAAAATGGAATTCAC  
 AGCGCATGTCTCCAAGGACCATGCTTGGATCCCCAATTCAGGATGTAGCAATTACTTTACATTCCTCTGA  
 CAATTCATCCTGGCACCTCCACAACTATGATTTCTGCCTGTGTCTCAAGATGCGTGCAAAAGGCTCTGAA  
 GAAAGCTGATAAGCAAGTTTGGAGCCTCTGATGAATCTTGAGGTTACAGTAGCTAGAGATTATCTCAGC  
 CCTGTCTGGCAGATCTGGCACAAGAAGAGGAAACATTACAGAAATTCAGACTCGCCAGGACAACAAAG  
 TTGTTATTGGATTGTTCCTTAGCAGGAATTATGGGTTATTCACTGTGCTTCGAACGCTAACATCAGG  
 CTCAGCTACTTTTGCTTAGAACTATCTACTTATCAAGCCATGAATCCTCAAGATCAAAATACACTGCTC  
 AACCGGAGAAGTGGTTTGACC

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

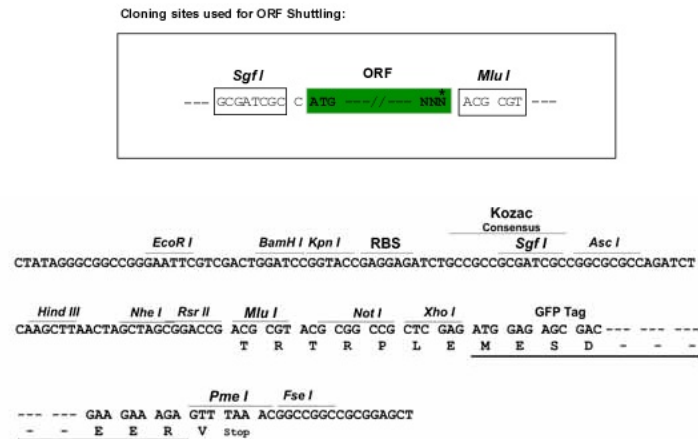
**Protein Sequence:** >RG205962 representing NM\_032380  
 Red=Cloning site Green=Tags(s)

MLTNLRIFAMSHQTIPSVYINNICYKIRASLKRKLKPHVPLGRNCSSLPGLIGNDIKSIHSIINPPIAKI  
 RNIGIMAHIDAGKTTTTTERILYYSGYTRSLGDVDDGDTVDFMAQERERGITIQSAAVTFDWKGYRVNLI  
 DTPGHVDFTLVERCLRVLDGAVAVFDASAGVEAQTLTVWRQADKHNIPRICFLNKMDKTGASFKYAVES  
 IREKLKAKPLLLQLPIGEAKTFKGVVDVVMKEKLLWNCNSNDGKDFERKPLLEMNDPELLKETTEARNAL  
 IEQVADLDDEFADLVLEEFSENFDLLPAEKLQTAIHRVTLAQTAVPVLGCSALKNKGIQPLLDVATMYLP  
 SPEERNYEFQWYKDDLALAFKVLHDKQRGPLVFMRIYSGTIKPQLAIHNINGNCTERISRLLLPFADQ  
 HVEIHSLTAGNIALTVGLKHTATGDTIVSSKSSALAAARRAEREGEKKHRQNNEAERLLLAGVEIPEPVF  
 FCTIEPPSLSKQPDLEHALKCLQREDPSLKVRLDPDSGQTVLCGMGELHIEIIHDRIKREYGLETYLGPL  
 QVAYREITILNSVRATDRTLDRTLGDKRHLVTEVGARPIETSSVMPVIEYAESINEGLLKVSQEIENGHI  
 SACLQGPLLGSPIQDVAITLHSLTIHPGTSTTMISACVSRVQKALKKADQVLEPLMNLEVTVARDYLS  
 PVLADLAQRRGNIQEIQTRQDNKVVGIVPLAGIMGYSTVLRTLTPSGSATFALELSTYQAMNPQDQNTLL  
 NRRSGLT

TRTRPLE – GFP Tag – V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_032380

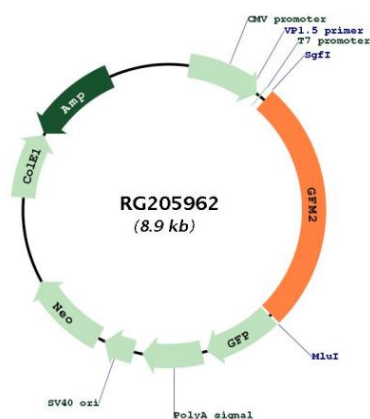
**ORF Size:** 2337 bp

**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.

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Components:</b>            | 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Reconstitution Method:</b> | <ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>                                                                                                                                                                                                                                                                                                                               |
| <b>RefSeq:</b>                | <u>NM_032380.3, NP_115756.2</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>RefSeq Size:</b>           | 3111 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>RefSeq ORF:</b>            | 2340 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Locus ID:</b>              | 84340                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>UniProt ID:</b>            | <u>Q969S9</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Cytogenetics:</b>          | 5q13.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Domains:</b>               | EFG_C, GTP_EFTU, GTP_EFTU_D2, EFG_IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Gene Summary:</b>          | <p>Eukaryotes contain two protein translational systems, one in the cytoplasm and one in the mitochondria. Mitochondrial translation is crucial for maintaining mitochondrial function and mutations in this system lead to a breakdown in the respiratory chain-oxidative phosphorylation system and to impaired maintenance of mitochondrial DNA. This gene encodes one of the mitochondrial translation elongation factors, which is a GTPase that plays a role at the termination of mitochondrial translation by mediating the disassembly of ribosomes from messenger RNA . Its role in the regulation of normal mitochondrial function and in disease states attributed to mitochondrial dysfunction is not known. Alternative splicing results in multiple transcript variants encoding distinct isoforms. [provided by RefSeq, Jul 2013]</p> |

## Product images:



Circular map for RG205962