

## Product datasheet for **RG202932**

### Methionyl tRNA synthetase (MARS) (NM\_004990) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Methionyl tRNA synthetase (MARS) (NM_004990) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	MARS1
Synonyms:	CMT2U; ILFS2; ILLD; MARS; METRS; MRS; MTRNS; SPG70
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RG202932 representing NM\_004990  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGACTGTTCTGTGAGTGATGGCGTCCCGGTTGCTTGCCGGTCTGGCCGCCCGCGGGAGAGCCCGG  
 GCAGAGCAGAGGTGCTCATCAGCACTGTAGGCCGGAAGATTGTGTGGTCCCGTTCTGACCCGGCCTAA  
 GGTCCCTGTCTTGCAGCTGGATAGCGGCAACTACCTCTTCTCCACTAGTGAATCTGCCGATATTTTTTT  
 TTGTTATCTGGCTGGGAGCAAGATGACCTCACTAACCAGTGGCTGGAATGGGAAGCGACAGAGCTGCAGC  
 CAGCTTTGTCTGCTGCCCTGTACTATTTAGTGGTCCAAGGCAAGAAGGGGGAAGATGTTCTTGGTTCAGT  
 GCGGAGAGCCCTGACTCACATTGACCACAGCTTGAGTCGTGAGAACTGTCCTTTCTGGCTGGGAGACA  
 GAATCTCTAGCCGACATTGTTTTGTGGGAGCCCTATACCCATTACTGCAAGATCCCGCCTACCTCCCTG  
 AGGAGCTGAGTGCCTGCACAGCTGGTCCAGACACTGAGTACCCAGGAACCATGTCAGCGAGCTGCAGA  
 GACTGTACTGAAACAGCAAGGTGCTGGCTCTCCGGCCTTACCTCCAAAAGCAGCCCCAGCCAGCCCC  
 GCTGAGGGAAGGGCTGTACCAATGAGCCTGAGGAGGAGGAGCTGGCTACCTATCTGAGGAGGAGATTG  
 CTATGGCTGTTACTGCTTGGGAGAAGGGCCTAGAAAGTTTGCCCCGCTGCGGCCCCAGCAGAATCCAGT  
 GTTGCCTGTGGCTGGAGAAAGGAATGTGCTCATCACCAGTGCCTCCCTACGTCAACAATGTCCCCAC  
 CTTGGGAACATCATTGGTTGTGTGCTCAGTGCCGATGTCTTGGCAGGACTCTCGCCTCCGCCAGTGGA  
 ACACCCCTATCTGTGTGGGACAGATGAGTATGGTACAGCAACAGAGACCAAGGCTCTGGAGGAGGGACT  
 AACCCCCAGGAGATCTGCGACAAGTACCACATCATCCATGCTGACATCTACCGCTGGTTAACATTTTCG  
 TTTGATATTTTTGGTTCGACACCACACTCCACAGCAGACCAAAATCACCCAGGACATTTCCAGCAGTTGC  
 TGAACGAGGTTTTGTGCTGCAAGATACTGTGGAGCAACTGCGATGTGAGCACTGTGCTCGCTTCTGCTGGC  
 TGACCGCTTCGTGGAGGCGTGTGTCCCTTCTGTGGCTATGAGGAGGCTCGGGGTGACCAGTGTGACAAG  
 TGTGGCAAGCTCATCAATGCTGTGAGCTTAAGAAGCCTCAGTGTAAAGTCTGCCGATCATGCCCTGTGG  
 TGCAGTCGAGCCAGCACCTGTTTCTGGACCTGCCTAAGCTGGAGAAGCGACTGGAGGAGTGGTTGGGGAG  
 GACATTGCCTGGCAGTGACTGGACACCAATGCCAGTTTATCACCCGTTCTTGGCTTCGGGATGGCCTC  
 AAGCCACGCTGCATAACCCGAGACCTCAAATGGGAACCCCTGTACCCTTAGAAGTTTTGAAGACAAGG  
 TATTCTATGTCTGGTTTGTATGCCACTATTGGCTATCTGTCCATCAGCCAACTACACAGACCAGTGGGA  
 GAGATGGTGAAGAACCAGAGCAAGTGGACCTGTATCAGTTCATGGCCAAAGACAATGTTCTTTCCAT  
 AGCTTAGTCTTTCTTGGCTCAGCCCTAGGAGCTGAGGATAACTATACCTTGGTCAGCCACCTCATTGCTA  
 CAGAGTACCTGAACTATGAGGATGGGAAATTCTCTAAGAGCCCGGTGTGGGAGTGTGGGGACATGGC  
 CCAGGACACGGGGATCCCTGCTGACATCTGGCGCTTCTATCTGCTGTACATTCCGGCTGAGGGCCAGGAC  
 AGTGCTTTCTCCTGGACGGACCTGCTGTGAAGAATAATTCTGAGCTGCTTAACAACCTGGGCAACTTCA  
 TCAACAGAGCTGGGATGTTTGTGCTAAGTTCTTTGGGGCTATGTGCCTGAGATGGTGTCCACCCCTGA  
 TGATCAGCGCTGCTGGCCCATGTACCCTGGAGCTCCAGCACTATCACCCAGTACTTGAGAAGGTTTCGG  
 ATCCGGGATGCCTTGGCAGTATCCTCACCATATCTCGACATGGCAACCAATATATTAGGTGAATGAGC  
 CCTGGAAGCGGATTAAGGCAGTGAAGCTGACAGGCAACGGGCAGGAACAGTACTGGCTTGGCAGTGAA  
 TATAGCTGCCCTTGCTCTGTGTCATGCTTACGCTTACATGCCACGGTTAGTGCCACAATCCAGGCCAG  
 CTGCAGTCCCACCTCCAGCCTGCAGTATCCTGCTGACAAAATTCTGTGTACCTTACCAGCAGGACACC  
 AGATTGGCACAGTCAGTCCCTTGTTCAAAAATTGAAAAATGACCAGATTGAAAGTTTAAGGCAGCGCTT  
 TGGAGGGGCCAGGCAAAAACGTCCCCAAGCCAGCAGTTGTAGAGACTGTTACAACAGCCAAGCCACAG  
 CAGATACAAGCGCTGATGGATGAAGTGACAAAACAAGGAAACATTGTCCGAGAATGAAAGCACAAAAGG  
 CAGACAAGAACGAGTTGCTGCGGAGGTGGCGAAACTCTTGGATCTAAGAAACAGTTGGCTGTAGCTGA  
 GGGGAAACCCCTGAAGCCCTAAAGGCAAGAAGAAAAAG

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – **GTTTAA**

Protein Sequence: >RG202932 representing NM\_004990  
 Red=Cloning site Green=Tags(s)

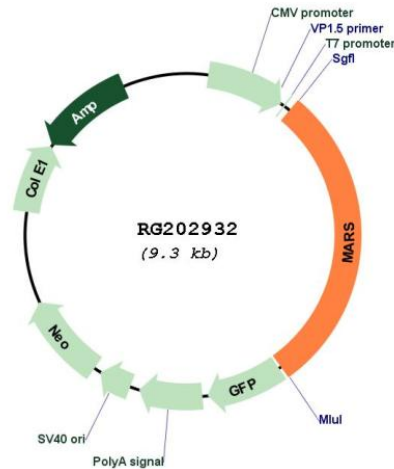
MRLFVSDGVPGLPVLAAAGRARGRAEVLISTVGPEDCVVPFLTRPKVPVLQLDSGNLFFSTSAICRYFF  
 LLSGWEQDDL TNQWLEWEATELQPALSAALYYL VVQGGKGEDVLG SVRRAL THIDHLSRQNC PFLAGET  
 ESLADIVLWGAL YPLLQDPAYLPEELSALHSWFQTLSTQEP CQRAAETVLKQQGV LALRPYLQKQPQSP  
 AEGRAVTNEPEEEELATLSEEEIAMAVTAWEKGLESLPPLRPQQNPVLPVAGER NVLITSALPYVNNVPH  
 LGNIIGCVLSADVFARYSRLRQWNTLYLCGTDEYGTATETKALEEGLTPQEICDKYHIHADIYRWFNIS  
 FDIFGRTTTTPQQTKITQDIFQQLLKRGFVLQDTVEQLRCEHCARFLADRFVEGVCPFCGYEEARGDQCDK  
 CGKLINAVELKKPQCKVCRSCPVVQSSQHLFLDLPKLEKRL EEWLGR TLPGSDWTPNAQF ITRSWLRDGL  
 KPRCITRDLKWTGPVPLEGFEDKVFYVWF DATIGYLSITANYTDQWERWWKNPEQVDLYQFMAKDNVPFH  
 SLVFPSCALGAEDNYTLVSHLIATEYLYNEDGKFSKSRGVGVGDMAQDTGIPADIWRFYLLYIRPEGQD  
 SAFSWTDLLLKNNSELLNNGNF INRAGMFVSKFFGGYVPEMVLTPDDQRLLAHVTELELQHYHQLLEKVR  
 IRDALRSILTISRHNQYIQVNEPWKRIGKSEADRQRAGT VTGLAVNIAALLSVMLQPYMPTVSATIQAAQ  
 LQLPPPACSILLTNFLCTLPAGHQIGTVSPLFQKLENDQIESLRQRFGGGQAKTSPKPAVVETVTTAKPQ  
 QIQALMDEVTKQGNIVRELKAQKADKNEVAAEVAKLLDLKKQLAVAEGKPPPEAPKGK KKK

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



**Plasmid Map:**


**ACCN:** NM\_004990

**ORF Size:** 2700 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\\_004990.4](#)

**RefSeq Size:** 2795 bp

**RefSeq ORF:** 2703 bp

**Locus ID:** 4141

**UniProt ID:** [P56192](#)

**Cytogenetics:** 12q13.3

<b>Domains:</b>	WHEP-TRS, tRNA-synt_1, GST_C
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Aminoacyl-tRNA biosynthesis, Selenoamino acid metabolism
<b>Gene Summary:</b>	This gene encodes a member of the class I family of aminoacyl-tRNA synthetases. These enzymes play a critical role in protein biosynthesis by charging tRNAs with their cognate amino acids. The encoded protein is a component of the multi-tRNA synthetase complex and catalyzes the ligation of methionine to tRNA molecules. [provided by RefSeq, Jan 2011]