

## Product datasheet for **RC202932**

### 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:	Myc-DDK
Symbol:	Methionyl tRNA synthetase
Synonyms:	CMT2U; ILFS2; ILLD; MARS; METRS; MRS; MTRNS; SPG70
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC202932 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGACTGTTCTGTGAGTGATGGCGTCCCGGTTGCTTCCGGTCTGGCCGCCCGGGAGAGCCCGGG  
 GCAGAGCAGAGGTGCTCATCAGCACTGTAGGCCGGAAGATTGTGTGGTCCCGTTCTGACCCGGCCTAA  
 GGTCCCTGTCTTGCAGCTGGATAGCGGCAACTACCTCTTCTCCACTAGTGAATCTGCCGATATTTTTTT  
 TTGTTATCTGGCTGGGAGCAAGATGACCTCACTAACCAGTGGCTGGAATGGGAAGCGACAGAGCTGCAGC  
 CAGCTTTGTCTGCTGCCCTGTACTATTTAGTGGTCCAAGGCAAGAAGGGGGAAGATGTTCTTGGTTCAGT  
 GCGGAGAGCCCTGACTCACATTGACCACAGCTTGAGTCGTGAGAACTGTCCTTTCTGGCTGGGAGACA  
 GAATCTCTAGCCGACATTGTTTTGTGGGAGCCCTATACCCATTACTGCAAGATCCCGCCTACCTCCCTG  
 AGGAGCTGAGTGCCTGCACAGCTGGTCCAGACACTGAGTACCCAGGAACCATGTCAGCGAGCTGCAGA  
 GACTGTACTGAAACAGCAAGGTGCTGGCTCTCCGGCCTTACCTCCAAAAGCAGCCCCAGCCAGCCCC  
 GCTGAGGGAAGGGCTGTACCAATGAGCCTGAGGAGGAGGAGCTGGCTACCTATCTGAGGAGGAGATTG  
 CTATGGCTGTTACTGCTTGGGAGAAGGGCCTAGAAAGTTTGCCCCGCTGCGGCCCCAGCAGAATCCAGT  
 GTTGCCTGTGGCTGGAGAAAGGAATGTGCTCATCACCAGTGCCTCCCTTACGTCAACAATGTCCCCAC  
 CTTGGGAACATCATTGGTTGTGTGCTCAGTGCCGATGTCTTGGCAGGACTCTCGCCTCCGCCAGTGGA  
 ACACCCCTATCTGTGTGGGACAGATGAGTATGGTACAGCAACAGAGACCAAGGCTCTGGAGGAGGGACT  
 AACCCCCAGGAGATCTGCGACAAGTACCACATCATCCATGCTGACATCTACCGCTGGTTAACATTTTCG  
 TTTGATATTTTTGGTTCGACACCACACTCCACAGCAGACCAAAATCACCCAGGACATTTCCAGCAGTTGC  
 TGAACGAGGTTTTGTGCTGCAAGATACTGTGGAGCAACTGCGATGTGAGCACTGTGCTCGCTTCTGCG  
 TGACCGCTTCGTGGAGGGCGTGTGTCCCTTCTGTGGCTATGAGGAGGCTCGGGGTGACCAGTGTGACAAG  
 TGTGGCAAGCTCATCAATGCTGTGAGCTTAAGAAGCCTCAGTGTAAAGTCTGCCGATCATGCCCTGTGG  
 TGCAGTCGAGCCAGCACCTGTTTCTGGACCTGCCTAAGCTGGAGAAGCGACTGGAGGAGTGGTTGGGGAG  
 GACATTGCCTGGCAGTGACTGGACACCAATGCCAGTTTATCACCCGTTCTTGGCTTCGGGATGGCCTC  
 AAGCCACGCTGCATAACCCGAGACCTCAAATGGGAACCCCTGTACCCTTAGAAGTTTTGAAGACAAGG  
 TATTCTATGTCTGGTTTGTATGCCACTATTGGCTATCTGTCCATCAGCCAACTACACAGACCAGTGGGA  
 GAGATGGTGAAGAACCAGAGCAAGTGGACCTGTATCAGTTCATGGCCAAGACAATGTTCTTTCCAT  
 AGCTTAGTCTTTCTTGGCTCAGCCCTAGGAGCTGAGGATAACTATACCTGGTCAGCCACCTCATTGCTA  
 CAGAGTACCTGAACTATGAGGATGGGAAATTCTCTAAGAGCCCGGTGTGGGAGTGTGGGGACATGGC  
 CCAGGACACGGGGATCCCTGCTGACATCTGGCGCTTCTATCTGCTGTACATTCCGGCTGAGGGCCAGGAC  
 AGTGCTTTCTCCTGGACGGACCTGCTGTGAAGAATAATTCTGAGCTGCTTAACAACCTGGGCAACTTCA  
 TCAACAGAGCTGGGATGTTTGTGTCTAAGTTCTTTGGGGCTATGTGCCTGAGATGGTGTCAACCCCTGA  
 TGATCAGCGCTGCTGGCCCATGTACCCTGGAGCTCCAGCACTATCACCAGCTACTTGAGAAGGTTTCGG  
 ATCCGGGATGCCTTGGCAGTATCCTCACCATATCTCGACATGGCAACCAATATATTAGGTGAATGAGC  
 CCTGGAAGCGGATTAAGGCAGTGAAGCTGACAGGCAACGGGCAGGAACAGTACTGGCTTGGCAGTGAA  
 TATAGCTGCCTTGCTCTGTGTCATGCTTACGCTTACATGCCACGGTTAGTGCCACAATCCAGGCCAG  
 CTGCAGTCCCACCTCCAGCCTGCAGTATCCTGCTGACAAAATTCTGTGTACCTTACCAGCAGGACACC  
 AGATTGGCACAGTCAGTCCCTTGTTCAAAAATTGAAAAATGACCAGATTGAAAGTTTAAGGCAGCGCTT  
 TGGAGGGGGCCAGGCAAAAACGTCCCCGAGCCAGCAGTTGTAGAGACTGTTACAACAGCCAAGCCACAG  
 CAGATACAAGCGCTGATGGATGAAGTGACAAAACAAGGAAACATTGTCCGAGAACTGAAAGCACAAAAGG  
 CAGACAAGAACGAGTTGCTGCGGAGGTGGCGAAACTCTTGGATCTAAAGAAACAGTTGGCTGTAGCTGA  
 GGGGAAACCCCTGAAGCCCTAAAGGCAAGAAGAAAAAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC202932 protein sequence  
 Red=Cloning site Green=Tags(s)

```
MRLFVSDGVPGLPVLAAAGRARGRAEVLISTVGPEDCVVFLTRPKVPVLQLDSGNLYLFTSAICRYFF
LLSGWEQDDL TNQWLEWEATELQPALSAALYYL VVQKKGEDVLGSVRRAL THIDHLSRQNC PFLAGET
ESLADIVLWGAL YPLLQDPAYLPEEL SALHSWFQTLSTQEP CQRAAETVLKQQGV LALRPLYLQKQPQSP
AEGRAVTNEPEEEELATLSEEEIAMAVTAWEKLESLPPLRPQQNPVLPVAGERNVLITSALPYVNNVPH
LGNIIIGCVLSADVFARYSRLRQWNTLYL CGTDEYGTATETKALEEGLTPQEICDKYHIIHADIYRWFNIS
FDIFGRTTTTQQTKITQDIFQQLLKRGFVLQDTVEQLRCEH CARFLADRFVEGVCPFCGYEEARGDQCDK
CGKLINAVELKKPQCKVCRSCPVVQSSQHLFLDLPKLEKRL EEWLGR TLPGSDWTPNAQF ITRSWLRDGL
KPRCITRDLK WGTVPVPLEGFEDKVFYVWF DATIGYLSIT ANYTDQWERWWKNPEQVDLYQFMAKDNVPFH
SLVFPCSALGAEDNYTLVSHLIATEYLN YEDGKFSKSRGVGVFGDMAQDTGIPADIWRFYLLYIRPEGQD
SAFSWTDLLLKNNSELLNNGNF INRAGMFVSKFFGGYVPEMVLTPDDQRLLAHVTELELQHYHQLLEKVR
IRDALRSILTISRHNQYIQVNEPWKR IKGSEADRQRAGT VTGLAVNIAALLSVMLQPYMPTVSATIQAQ
LQLPPPACSILLTNFLCTLPAGHQIGTVSPLFQKLENDQIESLRQRFGGGQAKTSPKPAVVETVTTAKPQ
QIQALMDEVTKQGNIVRELKAQKADKNEVAAEVAKLLDLKKQLAVAEGKPPPEAPKGGKKK
```

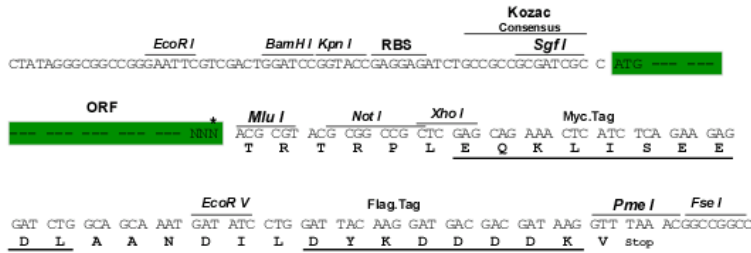
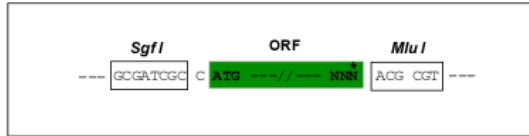
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6575\\_g04.zip](https://cdn.origene.com/chromatograms/mk6575_g04.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:

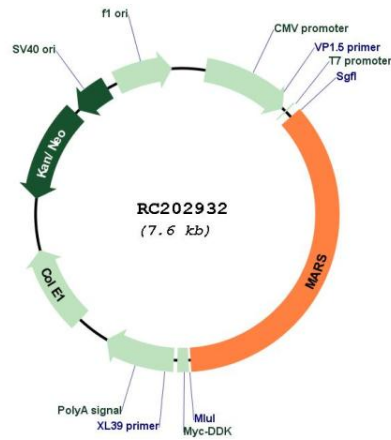


\* The last codon before the Stop codon of the ORF

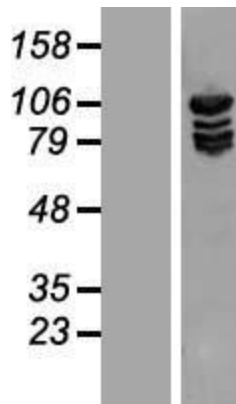
**ACCN:** NM\_004990

<b>ORF Size:</b>	2700 bp
<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	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>	<a href="#">NM_004990.4</a>
<b>RefSeq Size:</b>	2932 bp
<b>RefSeq ORF:</b>	2703 bp
<b>Locus ID:</b>	4141
<b>UniProt ID:</b>	<a href="#">P56192</a>
<b>Cytogenetics:</b>	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>MW:</b>	101.1 kDa
<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]

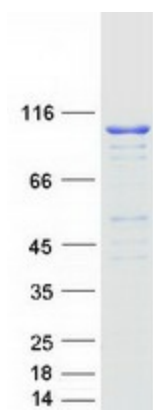
Product images:



Circular map for RC202932



Western blot validation of overexpression lysate (Cat# [LY417604]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202932 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MARS protein (Cat# [TP302932]). The protein was produced from HEK293T cells transfected with MARS cDNA clone (Cat# RC202932) using MegaTran 2.0 (Cat# [TT210002]).