

Product datasheet for **RC224966**

MARS2 (NM_138395) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MARS2 (NM_138395) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MARS2
Synonyms:	COXPD25; MetRS; mtMetRS
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC224966 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCTGCGAACGTCCTCCTCCGCTGCTAGGACGCACGGGGCTAGTAGGCTGTCTCCTGGAGGACT
 TCGGCCACGCTACTACAGTTTCGGGCTCCCTCAGTGCCGGCGATGATGCTTGTGATGTGCGGCCTACTT
 CACTACACCCATTTTCTACGTGAACGCGCGCCGCACATCGGGCACCTGTACTCGGCACTACTGGCGGAC
 GCCCTATGCCGCCACCGTCGCTCCGAGGTCCCAGCACGGCCGCCACGCGATTCTCCACTGGTACCGACG
 AGCACGGGCTGAAGATTCAGCAGGCAGCAGCTACCGGGGCTGGCCCGACCGAGCTGTGCGACCGAGT
 CTCTGAGCAGTTCAGCAGCTTTTCCAGGAGGCCGGTATCTCCTGCACAGATTTCCATCCGCCACCAGGAG
 GCCCGGCACCGGGTGGCTGTGCAGCACTTCTGGGGGTGCTTAAGTCCCGCGGTCTGCTCTACAAGGGCG
 TCTATGAAGTTGGTATTGCGCTCCGACGAGTCTTCTGCCTGAGGCCAAGGTACCCAGCAGCCGGG
 CCCATCGGGGATTCGTTTCTGTATCTCTCGAGAGCGGGCATCCAGTCTCCTGGACCAAGGAAGAAAAC
 TACATTTTCAGGCTTTCCAGTTCGGAAGCCACTCCAGCGGTGGCTGCGGGGAACCTCAGGCGATCA
 CCCCCGAACCATTTTCATCACGTAGTTTTCAGTGGCTGGACGAGGAGCTGCCCGACTGTCCGTGTCTCG
 CAGAAGTAGCCACTTGCCTGGGCAATTCGGTGCCTGGGGATGATTCCGACAGCCATCTATGATGGCTG
 GATGCCCTGGTCAACTACCTCACTGTAATTGGCTACCCAAATGCTGAGTCAAATCTTGGTGGCCGGCCA
 CCTCTCATATCATAGGTAAGGACATTTCAAATTCATGCCATCTATTGGCTGCCTTCTGTTAGGGGC
 CGGCATGAGCCCGCCACAGCGCATCTGTGTCCATCCACTGGACAGTCTGTGGCCAAAAGATGTCCAAG
 AGCTTGGGCAACGTGGTGGATCCTAGGACTTGCCTAACCGCTATACCGTGGATGGCTCCGCTACTTTTC
 TCCTTCGGCAGGGCGTCCCAACTGGACTGTGACTACTATGATGAAAAGGTGGTTAAGTGTGTAAGTCT
 CGAGCTGGCAGATGCCTTGGGAGGTCTCTTGAACCGATGCACTGCCAAAAGAATAAATCCTTCTGAGACC
 TACCCAGCCTTCTGCACTACCTGCTTCCCTAGTGAGCCAGGGTGGTGGGGCCGTCAGTTCGTGCTCAGG
 CAGAGGATTATGCTCTGGTGGAGCGAGTGGCCACTTTGCCAAAGCAGGTAGCAGACCACTATGATAACTT
 TCGGATATATAAGGCTCTGGAGGCCGTGTCCAGCTGTGTCGGCAAATAATGGTTTTGCCAAAGGCAT
 GCACCATGGAAGCTGAAGTGGGAGAGCCAGTGGATGCTCCCTGGCTGGTACTGTGCTTCATGTGGCT
 TGGAAATGTTTGCAGTCTTTGGACTTTGCTGCAGCCTGTACCCCAAGCCTAGCTGACAAGCTGCTGTC
 TAGGCTGGGGTCTCTGCCTCAGAGAGGAGTCTGGAGAGCTCTATTTCTGCCTCGATTCTATGGACAT
 CCATGCCCTTTGAAGGGAGGAGCTGGGACCTGAAACTGGGCTTTTGTTCGAAGACTAGACCAGTCCA
 GGACTTGGCTGGTAAAGCCACCGGACC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC224966 protein sequence
 Red=Cloning site Green=Tags(s)

MLRTSVLRLLGRTGASRLSLEDFGPRYYSSGSLSAGDDACDVRAFFTPIFYVNAAPHIGHLYSALLAD
 ALCRHRLRGPSTAATRFSTGTDEHGLKIQQAAATAGLAPTELCDRVSEQFQQLFQEAGISCTDFIRTE
 ARHRVAVQHFVWGLKSRGLLYKGVYEGWYCASDECFLPEAKVTQQPGPSGDSFPVLSGHPVSWTKEEN
 YIFRLSQFRKPLQRWLRGNPQAITPEPFHHVVLQWLDEELPDLVSRSSHLHWGIPVPGDSSQTIYVWL
 DALVNYLTVIGYPNAEFKSWWPATSHIIGKDILKFHAIYWPALLGAGMSPPQRICVHSHWTVCGQKMSK
 SLGNVVDPRCTLNRYTVDFRYFLLRQGVPNWDCDYDEKVVKLLNSELADALGLLNRACTAKRINPSET
 YPAFTCTCFPSEPLVGPSVRAQAEDYALVSAVATLQKQVADHYDNFRIYKALEAVSSCVRQTNGFVQRH
 APWKLNWESPVDAPWLGTVLHVALECLRFGTLLQPVTPSLADKLLSRLGVSASERSLGELYFLPRFYGH
 PCPFEGRRLLGPETGLLFPRLDQSRTWLVAHRT

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

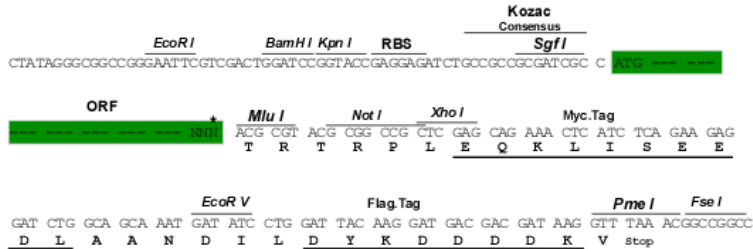
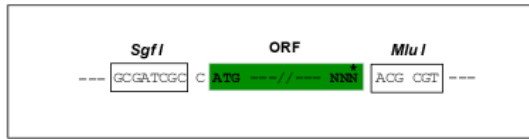
Chromatograms:

https://cdn.origene.com/chromatograms/mk6604_a06.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



* The last codon before the Stop codon of the ORF

ACCN: NM_138395

ORF Size: 1779 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_138395.4](#)

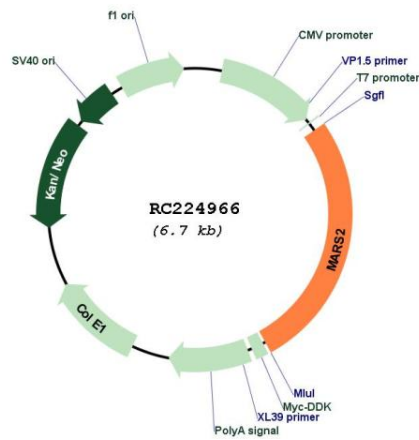
RefSeq Size: 3102 bp

RefSeq ORF: 1782 bp

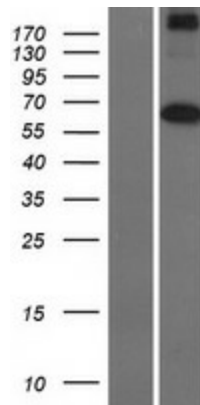
Locus ID: 92935

UniProt ID: [Q96GW9](#)
Cytogenetics: 2q33.1
Domains: tRNA-synt_1
Protein Families: Druggable Genome
Protein Pathways: Aminoacyl-tRNA biosynthesis, Selenoamino acid metabolism
MW: 66.6 kDa
Gene Summary: This gene produces a mitochondrial methionyl-tRNA synthetase protein that is encoded by the nuclear genome and imported to the mitochondrion. This protein likely functions as a monomer and is predicted to localize to the mitochondrial matrix. Mutations in this gene are associated with the autosomal recessive neurodegenerative disease spastic ataxia-3 (SPAX3). [provided by RefSeq, Apr 2014]

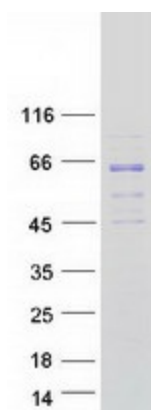
Product images:



Circular map for RC224966



Western blot validation of overexpression lysate (Cat# [LY408659]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC224966 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MARS2 protein (Cat# [TP324966]). The protein was produced from HEK293T cells transfected with MARS2 cDNA clone (Cat# RC224966) using MegaTran 2.0 (Cat# [TT210002]).