

Product datasheet for **RC202852**

GARS1 (NM_002047) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GARS1 (NM_002047) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	GARS1
Synonyms:	CMT2D; DSMAV; GARS; GlyRS; HMN5; HMN5A; SMAD1; SMAJI
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC202852 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGCCCTCTCCGGTCCAGTGTCTTAGAGTGTCTCGCGCCGCTCTGCTGCTGCTGCCCGCCCGG
 TCTTAGCCCGACCTCGCTCCTGCTCCGCGGTCCTCAGCGCGCCTCTGCGCCCGATCTCCTTGCC
 CGCCGCCCTCCCGGAGCAGCATGGACGGCGGGGGCTGAGGAGTGTGGCACCTCTGAGGCTAGCA
 GTGCGCCAGCAGGAGATCTTGTGCGAAAACCAAGAAGATAAAGCACCCCAAGTAGACGTAGACAAA
 CAGTGGCTGAGCTCAAAGCCCGAAGAGGGTCTGGAAGCAAAGGAGCTGGCGTTACAGCCCAAAGATGA
 TATTGTAGACCGAGCAAAAATGGAAGATACCCTGAAGAGGAGTTTTTCTATGATCAAGCTTTTGTCTATT
 TATGGAGTGTAGTGGTCTGTATGACTTTGGCCAGTTGGCTGTGCTTTGAAGAACAATATTATTCAGA
 CCTGGAGGCAGCACTTTATCAAGAGGAACAGATCCTGGAGATCGATTGCACCATGCTCACCCCTGAGCC
 AGTTTTAAAGACCTCTGGCCATGTAGACAAAATTTGCTGACTTCATGGTGAAGACGTAATAAATGGAGAA
 TGTTTTCGTGCTGACCATCTATTAAGAGCTCATTTACAGAAATGATGTCTGATAAGAAGTGTCTGTCG
 AAAAGAAATCAGAAATGGAAGTGTGGCCAGCTTGATAACTATGGACAGCAAGAAGTGTGGGATCT
 TTTTGTGAACTATAATGTAATACTCCCACTACTGGAAATGATCTATCCCTCCAGTGTCTTTAACTTA
 ATGTTCAAGACTTTTATTGGCCCTGGAGGAAACATGCCTGGTACTTGAGACCAGAACTGCACAGGGGA
 TTTTCTTGAAATTTCAAACGACTTTTGGAGTTCAACCAAGGAAAGTTGCCTTTTGTGCTGCCAGATTGG
 AAATCTTTTGAAGATGAGATCTCCCTCGATCTGGACTGATCAGAGTCAGAGAATTCACAATGGCAGAA
 ATTGAGCACTTTGTAGATCCCAAGTGAAGAACACCCCAAGTCCAGAATGTGGCAGACCTTACCTTTA
 ATTTGTATTCAGCAAAAAGCCAGGTCAGCGGACAGTCCGCTCGGAAAATGCGCCTGGGAGATGCTGTTGA
 ACAGGGTGTGATTAATAACACAGTATTAGGCTATTTTATTGGCCGATCTACCTCTACCTCACGAAGGTT
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 GTTGGGATGCAGAATCCAAAACATCCTACGGTTGGATTGAGATTGTTGGATGTGCTGATCGTTCTGTTA
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 ACAGTCAATGTTGTTGAGTTTGAACCCAGTAAGGGAGCAATTGGTAAGGCATATAAGAAGGATGCAAAAC
 TGGTGTGGAGTATCTTGCCATTTGTGATGAGTGTACATTACAGAAATGGAGATGCTGCTGAATGAGAA
 AGGGGAATTCACAATTGAACTGAAGGGAAAACATTTAGTTAACAAAAGACATGATCAATGTGAAGAGA
 TTCCAGAAAACACTATATGTGGAAGAAGTTGTTCCGAATGTAATTGAACCTTCTTCGGCCTGGGTAGGA
 TCATGTATACGGTATTTGAACATACATTCATGTACGAGAAGGAGATGAACAGAGAACATTTCTTCAGTTT
 CCTGCTGTAGTTGCTCCATTCAAATGTTCCGTCTCCCACTGAGCCAAAACAGGAGTTTATGCCATTT
 GTCAAGGAATTATCGGAAGCCCTGACCAGGCATGGAGTATCTCACAAAGTAGACGATTCCTCTGGGTCAA
 TCGGAAGGCGCTATGCCAGGACTGATGAGATTGGCGTGGCTTTTGGTGTACCAATTGACTTTGACACAGT
 GAACAAGACCCCCCACTGCAACTCTGAGGGACCGTACTCAATGCGGCAGATAAGAGCAGAGATCTCT
 GAGCTGCCAGCATAGTCCAAGACCTAGCCAATGGCAACATCACATGGGCTGATGTGGAGGCCAGGTATC
 CTCTGTTTGAAGGGCAAGAGACTGGTAAAAAGAGACAATCGAGGAA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC202852 protein sequence
Red=Cloning site Green=Tags(s)

MPSRPVLLRGARAALLLLLPPRLLARPSLLLRSL SAASCAPISL PAAASRSSMDGAGAEVLA PLRLA
 VRQQDLVRKLEKDKAPQVDVKAVALKARKRVLEAKELALQPKDDIVDRAKMEDTLKRRFFYDQAF AI
 YGGVSGLYDFGPVGCALKNNIIQTWRQHF IQEEQILEIDCTML TPEPVLKTSGHVDFKADFVMDVKNGE
 CFRADHLLKAHLQKLMSDKKCSVEKKSEMSVLAQLDNYGQQELADLFVNYNVKSPITGNDL SPPVSFNL
 MFKTFIGPGNMPGYLRPETAQGIFLNFKRLLEFNQGKLPFAAAQIGNSFNEISPRSGLIRVREF TMAE
 IEHFVDPSEKDHDPKFQNVADLHLYLSAKAQVSGQSARKMRLGDAVEQGVINNTVLGYF IGRIYLYLTKV
 GISPKLRFQHMENEMAHYACDCWDAESKTSYGWIEIVGCADRSCYDLSCHARATKVPLVAEKPLKEPK
 TVNVVQFEPKGAIGKAYKDKAKLVMEYLAICDECYITEMEMLLNEKGEFTIETEGKTFQLTKDMINVKR
 FQKTLVYEEVVPNVI EPSFGLGRIMYTFEHTFHVREGDEQRTFFSFPVAVPFKCSVLPLSQNQEFMPF
 VKELSEALTRHGVS HKVDDSSG SIGRRYARTDEIGVAFGVTIDFDTVNKTPHTATLDRDRSMRQIRAEIS
 ELPSIVQDLANGNITWADVEARYPLFEGQETGKKE TIEE

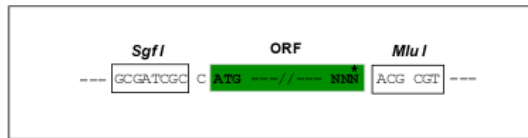
TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6219_b10.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_002047

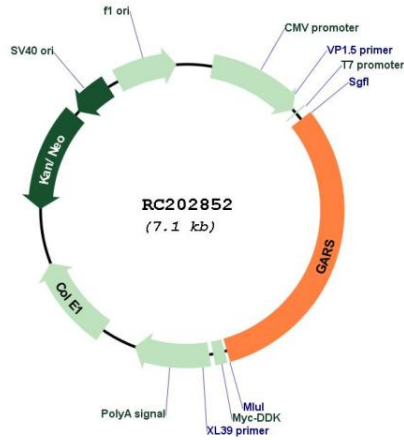
ORF Size: 2217 bp

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](#)

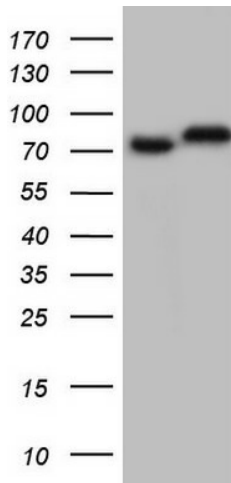
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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:	<ol style="list-style-type: none">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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_002047.4
RefSeq Size:	2759 bp
RefSeq ORF:	2220 bp
Locus ID:	2617
UniProt ID:	P41250
Cytogenetics:	7p14.3
Domains:	WHEP-TRS, tRNA-synt_2b, HGTP_anticodon
Protein Pathways:	Aminoacyl-tRNA biosynthesis
MW:	83.1 kDa
Gene Summary:	This gene encodes glycyl-tRNA synthetase, one of the aminoacyl-tRNA synthetases that charge tRNAs with their cognate amino acids. The encoded enzyme is an (alpha) ₂ dimer which belongs to the class II family of tRNA synthetases. It has been shown to be a target of autoantibodies in the human autoimmune diseases, polymyositis or dermatomyositis. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Oct 2015]

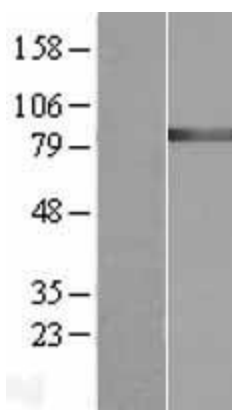
Product images:



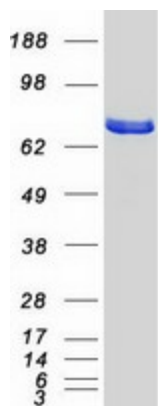
Circular map for RC202852



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY GARS (Cat# RC202852, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-GARS(Cat# [TA805168]). Positive lysates [LY419568] (100ug) and [LC419568] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419568]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202852 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GARS protein (Cat# [TP302852]). The protein was produced from HEK293T cells transfected with GARS cDNA clone (Cat# RC202852) using MegaTran 2.0 (Cat# [TT210002]).