

## Product datasheet for **RG212277**

### SEPN1 (SELENON) (NM\_206926) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	SEPN1 (SELENON) (NM_206926) Human Tagged ORF Clone
Symbol:	SEPN1
Synonyms:	CFTD; MDRS1; RSMD1; RSS; SELN; SEPN1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG212277 representing NM\_206926  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGGCCGGGCCGGGCCAACCGGGCCGCCAGCCCCGGCCCCGCCGCGCAGCCTCCCGGCCAC  
 CGCGCCGCCGCCCGTTCCCTGGCGCTGCTCGGAGCCCTGCTGGCCGCCCGCTGCCCGCCCGTCCG  
 GGTCTGCGCCGCCACGCCGAGGCCAGGCGGGCCGCGCGCAGGAAGTGGCGCTGAAGACCTGGGGACA  
 GATGGCCTTTTTCTTTTTCTCCTTGGACTGACGGGGATATGTACATCAGCCCTGAGGAGTTCAAAC  
 CCATTGCTGAGAAGCTAACAGGGTCAACTCCCGGCCAGCTGCGAGGAGGAGGAGTTGCCCCCTGACCC  
 TAGCGAGGAGACGCTCACCATAGAAGCCGATTCCAGCCTCTGCTCCCGGAGACCATGACCAAGAGCAAA  
 GATGGCTTCTAGGGTCTCCCGCTCGCCCTGTCGGCCTCCGAACTGGACAGCCGCCGCTCACCAA  
 GTGCAGTGTGGCACCCGCCACTTCCAGCCCTCCTTCCCCCGCAGGCCAGGAGCTGGGTGAGCCCTG  
 GTGGATCATCCCAGTGAGCTGAGCATGTTCACTGGCTACCTGTCCAACAACCGTTCTATCCACCGCCG  
 CCCAAGGCAAGGAGTCACTATCCACCGCTCCTGAGCATGTTCCACCCCTCGGCCCTTTGTAAGACCC  
 GCTTTGCCCTCAGGGAGCTGTGGCTGCCTGACTGCCATCAGCGACTTCTACTACACTGTGATGTTCCG  
 GATCCATGCCAGTTCAGCTCAGTGAGCCGCCGACTTCCCCTTTGGTTCTCCCTGCTCAGTTCACC  
 GGCCACATCATCTCTCCAAAGACGCCACCCACGTCGCGACTCCGGCTCTTGTGCCAACACAGGT  
 CTCTGAATGTGGACATGGAGTGGCTTTACGGGGCCAGTGAAGCAGCAACATGGAGGTGGACATCGGCTA  
 CATACCCCAGATGGAGCTGGAGGCCACGGGCCCTCTGTGCCCTCCGATCCTGGATGAGGATGGCAGC  
 ATGATCGACAGCCACTGCCTTCAGGGGAGCCCTGCAGTTTGTGTTTGGAGAGATCAAGTGGCAGCAGG  
 AGCTGAGCTGGGAGGAGGCTGCCCGGCCCTGGAGGTGGCCATGTACCCCTTCAAGAAGGTCTCCTACTT  
 GCGGTTCACTGAGGCCTTCGACCGAGCCAAGGCTGAGAACAAGCTGGTGCCTCAATCCTGCTGTGGGG  
 GCCCTGGATGACCACTCTGCTGAGGTTCAAGGGGACTTCCGGGAGACTGTCTGAAAGTTCGCCCA  
 TCCTCACCTGCTCAACGAGAGCTTCAACGACCTGGTCCCTGGTGAAGGAGCTGGAGAACTGCAGAA  
 CAACCAGGAGAACTCGTCCACCAAGAGCTGGCTGGCCTGCACCTGGAGAAGTACAGTTCCTCCCGTGGAG  
 ATGATGATCTGCCTGCCAATGGCACCGTGGTCCATCACATCAATGCCAACTACTTCTGGACATCACCT  
 CCGTGAAGCCCGAGGAAATCGAGAGCAATCTTTCAGTCTCTATCCACCTTTGAAGACCCGTCCACGGC  
 CACTACATGCAGTTCCTGAAGGAGGACTCCGGCGTGGCCTGCCCTCCTCCAGCCC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>RG212277 representing NM\_206926  
 Red=Cloning site Green=Tags(s)

MGRARPGQRGPPSPGPAQPPAPRRRARSLLALLGALLAAAAAAVRVRCARHAEQAQAAARQELALKTLGT  
 DGLFLFSSLDTDGDMYISPEEFKPIAEKLTGSTPAASCEEEELPPDPSEETLTIEARFQPLLPTMTKSK  
 DGFLGVSRLALSGLRNWTAASPSAVFATRHFQFLLPPPQELGEPWWIIPSEL SMFTGYLSNNRFYPPP  
 PKGKEVI IHRLLSMFHRPFVKTRFAPQGAACLTAISDFYYTVMFRIHAEFQLSEPPDFPFWFSPAQFT  
 GHIILSKDATHVRDFRLFVFNHRS LNVDMEWL YGASESSNMEVDIGYIPQMELEATGPSVPSVILDEDGS  
 MIDSHLPSGEPLQVFEEIKWQELSWEEAARRLEVAMYPFKVSYL PFTEAFDRAKAENKL VHSILLWG  
 ALDDQSC\*GSGRTLRETVLESSPIL TLLNESFISTWSLVKELEELQNNQENSSHQKLAGLHLEKYSFPVE  
 MMICLPNGTVVHHINANYFLDITSVKPEEIESNLF SFSSTFEDPSTATYMQFLKEGLRRGLPLLQP

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_206926

**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 encodes a selenoprotein containing the rare amino acid selenocysteine (Sec). Sec is encoded by UGA codon, which normally signals translational termination. Expression of this clone is not guaranteed due to the nature of selenoproteins.

**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\\_206926.2](#)

**RefSeq Size:** 4255 bp

**RefSeq ORF:** 1671 bp

**Locus ID:** 57190

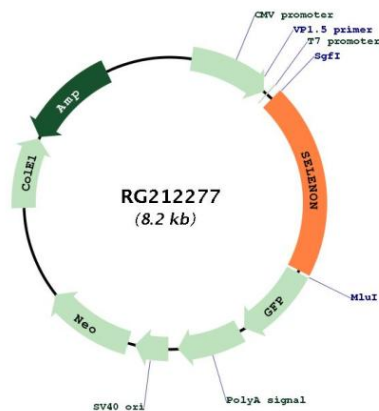
**UniProt ID:** [Q9NZV5](#)

**Cytogenetics:** 1p36.11

**Protein Families:** Druggable Genome

**Gene Summary:** This gene encodes a glycoprotein that is localized in the endoplasmic reticulum. It plays an important role in cell protection against oxidative stress, and in the regulation of redox-related calcium homeostasis. Mutations in this gene are associated with early onset muscle disorders, referred to as SEPN1-related myopathy. SEPN1-related myopathy consists of 4 autosomal recessive disorders, originally thought to be separate entities: rigid spine muscular dystrophy (RSMD1), the classical form of multiminicore disease, desmin related myopathy with Mallory-body like inclusions, and congenital fiber-type disproportion (CFTD). This protein is a selenoprotein, containing the rare amino acid selenocysteine (Sec). Sec is encoded by the UGA codon, which normally signals translation termination. The 3' UTRs of selenoprotein mRNAs contain a conserved stem-loop structure, designated the Sec insertion sequence (SECIS) element, that is necessary for the recognition of UGA as a Sec codon, rather than as a stop signal. A second stop-codon redefinition element (SRE) adjacent to the UGA codon has been identified in this gene (PMID:15791204). SRE is a phylogenetically conserved stem-loop structure that stimulates readthrough at the UGA codon, and augments the Sec insertion efficiency by SECIS. Alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Dec 2016]

**Product images:**



Circular map for RG212277