

Product datasheet for **RG217524**

SEPN1 (SELENON) (NM_020451) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SEPN1 (SELENON) (NM_020451) 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:

>RG217524 representing NM_020451
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGGCCGGGCCGGGCCAACCGGGCCGCCAGCCCCGGCCCCGCGCAGCCTCCCGGCCAC
 CGCGCCGCGCGCCGTTCCCTGGCGCTGCTCGGAGCCCTGCTGGCCCGCGCCGCTGCCGCGCCGTCCG
 GGTCTGCGCCCGCCACGCCGAGGCCAGGCGGGCCGCGCGCAGGAAGTGGCGCTGAAGACCTGGGGACA
 GATGGCCTTTTTCTTTTTCTCTTCTGGACACTGACGGGATATGTACATCAGCCCTGAGGAGTTCAAAC
 CCATTGCTGAGAAGCTAACAGGGTCTTGTCTGTACCCAGACTGGAGTGCAGTGGTGCAGTACAGCTC
 ACTGCAGCCTCAACTCCCTGGCTCAATTGATCCTCTGCCTCAGCCTCCTGAGGTCAACTCCCGCGGCC
 AGCTGCGAGGAGGAGTGGCCCTGACCCTAGCGAGGAGACGCTCACCATAGAAGCCCGATTCCAGC
 CTCTGCTCCCGGAGACCATGACCAAGAGCAAAGATGGCTTCTAGGGGTCTCCCGCTCGCCTGTCCGG
 CCTCCGAAACTGGACAGCCGCCCTACCAAGTGCAGTGTGGCCACCGCCACTTCCAGCCCTCCTT
 CCCCCGCAAGGCCAGGAGCTGGGTGAGCCCTGGTGGATCATCCCCAGTGAGCTGAGCATGTTCACTGGCT
 ACCTGTCCAACAACCGCTTCTATCCACCGCCGCCAAGGCAAGGAGTGCATCATCCACCGGCTCCTGAG
 CATGTTCCACCCTCGGCCCTTGTGAAGACCGCTTGGCCCTCAGGGAGCTGTGGCCTGCCTGACTGCC
 ATCAGCGACTTCTACTACACTGTGATGTTCCGGATCCATGCCGAGTTCAGCTCAGTGCAGCCGCCGACT
 TCCCTTTTGGTCTCCCTGCTCAGTTCACCGGCCACATCATCTCTCCAAAGACGCCACCCACGTCCG
 CGACTCCGGCTCTTCGTGCCAACCACAGGTCTCTGAATGTGGACATGGAGTGGCTTACGGGGCCAGT
 GAAAGCAGCAACATGGAGGTGGACATCGGCTACATACCCAGATGGAGCTGGAGGCCACGGGCCCTCTG
 TGCCCTCCGTGATCCTGGATGAGGATGGCAGATGATCGACAGCCACCTGCCTTCAGGGGAGCCCTGCA
 GTTTGTGTTTGGAGAGATCAAGTGGCAGCAGGAGCTGAGCTGGGAGGAGGCTGCCCGCGCCTGGAGGTG
 GCCATGTACCCCTTCAAGAAGGTCTCCTACTTGGCGTTCCTGAGGCCTTCGACCAGCCAAAGGCTGAGA
 ACAAGCTGGTGCCTCAATCCTGCTGTGGGGGCCCTGGATGACCAGTCTGCTGAGGTTAGGGCGGAC
 TCTCCGGGAGACTGCTCGAAAGTTCGCCCATCTCACCTGCTCAACGAGAGCTTCATCAGCACCTGG
 TCCCTGGTGAAGGAGCTGGAGGAAGTGCAGAACACCAGGAGAACTCGTCCACCAGAAGCTGGCTGGCC
 TGCACCTGGAGAAGTACAGCTTCCCGTGGAGATGATGATCTGCCTGCCAATGGCACCGTGGTCCATCA
 CATCAATGCCAACTACTTCTGGACATCACCTCCGTGAAGCCCGAGGAAATCGAGAGCAATCTTTCAGC
 TTCTCATCCACCTTTGAAGACCCGTCCACGGCCACCTACATGCAGTTCCTGAAGGAGGACTCCGGCGTG
 GCCTGCCCTCCTCCAGCCC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG217524 representing NM_020451
 Red=Cloning site Green=Tags(s)

MGRARPGQRGPPSPGPAQPPAPPRRRARSLALLGALLAAAAAAVAVRVCARHAEQAARQELALKTLGT
 DGLFLFSSLDTDGMYISPEEFKPIAEKLTGSCSVTQTGVQWCHSSLQPQLPWLN*SSCLSLLRSTPAA
 SCEEEELPPDPSEETLTIEARFQPLLPEMTKSKDGF LGVSRLLSGLRNWTAASPSAVFATRFHPFL
 PPPQELGEPWWIIPSELSMFTGYLSNNRFYPPPKGKEVIIHRLLSMFHPRPFVKTRFAPQGAVALTA
 ISDFYYTVMFRIHAEFQLSEPPDFPFWFSPAQFTGHIIILSKDATHVRDFRLFVPNHRSLNVDMEWLYGAS
 ESSNMEVDIGYIPQMELEATGPSVPSVILDEDGSMIDSHLPSGEPLQFVFEEIKWQQELSWEEAARRLEV
 AMYPFKKVSYPFTEAFDRAKAENKLVHSILLWGALDDQSC*GSGRTLRETVLESSPIL TLLNESFISTW
 SLVKELEELQNNQENSSHQKLAGLHLEKYSFPVEMMICLPNGTVVHHINANYFLDITSVKPEEIESNLFS
 FSSTFEDPSTATYMQFLKEGLRRLPLLP

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_020451

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](#) The expression of this clone is not guaranteed due to the nature of selenoproteins.

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_020451.3](#)

RefSeq Size: 4357 bp

RefSeq ORF: 1773 bp

Locus ID: 57190

UniProt ID: [Q9NZV5](#)

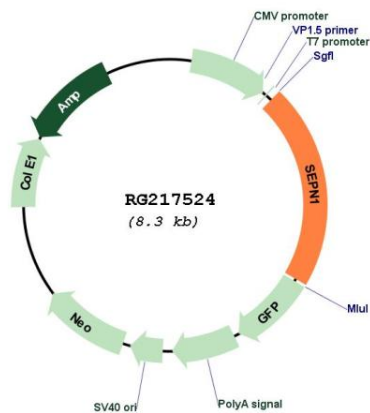
Cytogenetics: 1p36.11

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 RG217524