

Product datasheet for **RC201830**

Selenophosphate synthetase 2 (SEPHS2) (NM_012248) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Selenophosphate synthetase 2 (SEPHS2) (NM_012248) Human Tagged ORF Clone
Symbol:	Selenophosphate synthetase 2
Synonyms:	SPS2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC201830 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGGCGGAAGCCTCGGCGACGGGCGCTGCGGAGAGGCGATGGCAGCGGCGGAAGGCTCCTCGGGCCCGG
 CGGGCTTGACTCTGGGCCGGAGCTTCTCGAACTACCGGCCCTTCGAGCCCAGGCGTTGGGCCTCAGCCC
 GAGCTGGCGGCTGACGGGCTTCTCCGGCATGAAGGGCTGAGGCTGCAAGGTCCTCCGACGAGGCGCTGCTC
 AAACCTCTGGCGGACTGACGCGGCCGACGTGCGGCCCCCGCTGGGCGGGGCTGTTGGTGGCCAGG
 AAGAGGCGTCCCAGGAAGCCGGCCTGCCGGCAGGAGCGGGCCCCAGCCCCACCTTCCAGCCCTGGGCAT
 CGGGATGGACTCTGCGTCATCCCCCTGAGGCACGGGGGCTGTCACTGGTGCAGACCACGGACTCTTT
 TACCCCTTGGTAGAAGATCCCTACATGATGGGGCGCATAGCTTGTCCAACGTGCTGAGTGACCTCTACG
 CCATGGGGATTACTGAGTGTGACAACATGTTGATGTTACTCAGCGTCAGCCAGAGTATGAGTGAGGAGGA
 ACGCGAAAAGGTAAACGCCACTCATGGTCAAAGGCTTTCGGGATGCGGCTGAGGAAGGAGGACGGCAGTG
 ACCGGTGGGCAAACGGTGGTCAACCCTTGATTATAATCGGTGGAGTTGCCACTGTAGTATGCCAACCAA
 ATGAGTTCATAATGCCGGACAGCGCCGTCGTTGGGGACGTGCTGGTGTAAACCAAACCGTTAGGAACCCA
 GTTTGGTGTCAATGCCACCAATGGCTGGATAATCCTGAAAGATGGAATAAAGTAAAGATGGTGGTCTCC
 AGAGAAGAGGTGGAGCTGGCCTATCAGGAAGCCATGTTCAATAAGGCTACCCCAACAGAAGTGTGCGAG
 GTTTAATGCACACATTTAATGCCATGCGGCCACAGATATCACAGGCTTTGGCATTCTAGGACACTCCCA
 GAACCTTGCAAAACAACAAGAAATGAAGTGTCTTTGTTATTCATAATCTGCCAATAATTGCCAAGATG
 GCTGCCGTGAGCAAGGCCAGTGGACGGTTGGGCTTCTCAAGGAACCTCAGTGAACCTCTGGGGGAT
 TACTGATTTGCTGCCAAGAGAACAGGCGCTCGCTTTTGTCTGAAATCAAATCCTCAAGTACGGAGA
 GGGTACCAAGCGTGGATCGTTGGCATTGTGAAAAGGGAAACCGAACGCGCCGGATCATTGACAAGCCG
 CGATTATTGAAGTCTGCCTCGTGGGGCCACAGCTGCTGTTCTTGTCTCCTGACAGTTCAAATGCCTCCT
 CTGAGCCTAGCTCG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC201830 protein sequence
 Red=Cloning site Green=Tags(s)

MAEASATGACGEAMAAEAGSSGPAGLTLGRSFSNYRPFEPQALGLSPSWRLTGFSGMKG*GCKVPQEALL
 KLLAGL TRPDVRPPLGRGLVGGQEEASQEAGLPAGAGPSPTFPALGIGMDSVPIPLRHGGLSLVQTTDFF
 YPLVEDPYMMGRIACANVLSLYAMGITECDNMLMLLSVSQSMSEEREKVTPLMVKGFRDAAEEGGTAV
 TGGQTVVNPWIIIGGVATVVCQPNFIMPDSAVVGDVLLTKPLGTQVAVNAHQWLDNPERWNVKVMVVS
 REEVELAYQEAMFNMATLNRTAAGLMHTFNAHAATDITGFGILGHSQNLAKQQRNEVSFVIHNLPIIAKM
 AAVSKASGRFGLLQGTAETSGLLIICLPREQAARFCSEIKSSKYGEGHQAWIVGIVEKGNRTARIIDKP
 RVIEVLPRGATAAVLAPDSSNASSEPS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6085_e05.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:



ACCN: NM_012248

ORF Size: 1344 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](#) 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_012248.4](#)

RefSeq Size: 2351 bp

RefSeq ORF: 1347 bp

Locus ID: 22928

UniProt ID: [Q99611](#)

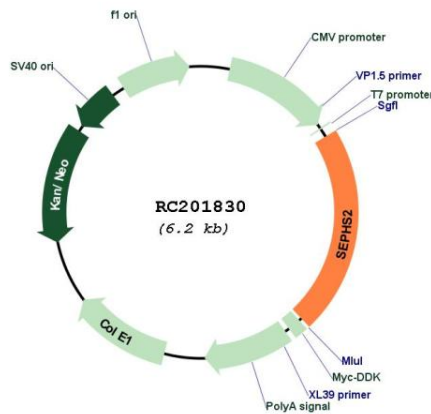
Cytogenetics: 16p11.2

Domains: AIRS

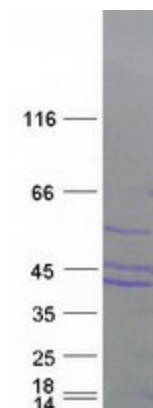
Protein Pathways: Metabolic pathways, Selenoamino acid metabolism

Gene Summary: This gene encodes an enzyme that catalyzes the production of monoselenophosphate (MSP) from selenide and ATP. MSP is the selenium donor required for synthesis of selenocysteine (Sec), which is co-translationally incorporated into selenoproteins at in-frame UGA codons that normally signal translation termination. The 3' UTRs of selenoprotein mRNAs contain a conserved stem-loop structure, the Sec insertion sequence (SECIS) element, which is necessary for the recognition of UGA as a Sec codon rather than as a stop signal. This protein is itself a selenoprotein containing a Sec residue at its active site, suggesting the existence of an autoregulatory mechanism. It is preferentially expressed in tissues implicated in the synthesis of selenoproteins and in sites of blood cell development. A pseudogene for this locus has been identified on chromosome 5. [provided by RefSeq, May 2017]

Product images:



Circular map for RC201830



Coomassie blue staining of purified SEPHS2 protein (Cat# [TP301830]). The protein was produced from HEK293T cells transfected with SEPHS2 cDNA clone (Cat# RC201830) using MegaTran 2.0 (Cat# [TT210002]).