

Product datasheet for **RC203461**

SHMT1 (NM_004169) Human Tagged ORF Clone

Product data:

| | |
|---------------------------|--|
| Product Type: | Expression Plasmids |
| Product Name: | SHMT1 (NM_004169) Human Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | SHMT1 |
| Synonyms: | CSHMT; SHMT |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |



[View online »](#)

ORF Nucleotide Sequence:

>RC203461 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGACGATGCCAGTCAACGGGGCCACAAGGATGCTGACCTGTGGTCCTCACATGACAAGATGCTGGCAC
 AACCCCTCAAAGACAGTGATGTTGAGGTTTACAACATCATTAAAGAAGGAGAGTAACCGGCAGAGGTTGG
 ATTGGAGCTGATTGCCTCGGAGAATTTCCGCAGCCGAGCAGTTTTGGAGGCCCTAGGCTCTTGCTTAAAT
 AACAAATACTCTGAGGGTACCCGGGCCAGAGATACTATGGCGGGACTGAGTTTATTGATGAACTGGAGA
 CCCTCTGTGAGAAGCGAGCCCTGCAGGCCATAAGCTGGACCCACAGTGTGGGGGTCAACGTCCAGCC
 CTACTCAGGCTCCCCTGCAAACCTTGTGTGTACTGCTGCCCTGGTGAACCCATGGGCGCATCATGGGC
 CTGGACCTTCCGGATGGGGGCCACCTGACCCATGGGTTTCATGACAGACAAGAAGAAAATCTCTGCCAGT
 CCATCTTCTTTGAATCTATGCCCTACAAGGTGAACCCAGATACTGGCTACATCAACTATGACCAGCTGGA
 GGAGAACGCACGCCTCTCCACCGAAGCTGATCATCGCAGGAACAGCTGCTACTCCCGAAACCTGGAA
 TATGCCCGGCTACGGAAGATTGCAGATGAGAACGGGGCGTATCTCATGGCGGACATGGCTCACATCAGCG
 GGCTGGTGGCGGCTGGCGTGGTGCCTCCCAATTTGAACACTGCCATGTGGTGACCACCACCACTACAA
 GACCTGCGAGGCTGCCGAGCTGGCATGATCTTACAGGAAAGGAGTGAAGTGTGGATCCCAAGACT
 GGCAAAGAGATTCTGTACAACCTGGAGTCTTTATCAATTCTGTGTGTTCCCTGGCCTGCAGGGAGGTC
 CCCACAACCACGCCATTGCTGGGGTGTGTGGCACTGAAGCAAGCTATGACTCTGGAATTTAAAGTTTA
 TCAACACCAGGTGGTGGCAACTGCAGGGCTCTGTCTGAGGCCCTGACGGAGCTGGGCTACAAAAATGTC
 ACAGGTGGTCTGACAACCTTTGATCCTTGTGGATCTCCGTTCCAAAGGCACAGATGGTGAAGGGCTG
 AGAAGGTCTAGAAGCCTGTTCTATTGCCTGCAACAAGAACACCTGTCCAGGTGACAGAAGCGCTCTGCG
 GCCCAGTGGACTGCGGCTGGGGACCCAGCACTGACGTCCCGTGGACTTTTGAAAAAAGACTTCCAAAAA
 GTAGCCCACTTTATTCACAGAGGATAGAGCTGACCCTGCAGATCCAGAGCGACTGGTGTGAGAGCCA
 CCCTGAAAGAGTTCAAGGAGAGACTGGCAGGGGATAAGTACCAGGCGGCCGTGCAGGCTCTCCGGGAGGA
 GGTTGAGAGCTTCGCTCTTTCTCCCTCTGCCTGGCCTGCCTGACTTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC203461 protein sequence
 Red=Cloning site Green=Tags(s)

MTMPVNGAHKDADLWSSHDKMLAQPLKDS DVEVYNI IKKESNRQRVGLEL IASENFASRAVLEALGSCLN
 NKYSEGYPGQRYGGTEF IDELETLCQKRALQAYKLDPQCWGVNVQPYSGSPANFVYTTALVEPHGRIMG
 LDLPDGGHLTHGFMTDKKISATSIF FESMPYKVNPD TGYINYDQLEENARLFHPKLI IAGTSCYSRNLE
 YARLRKIADENGAYLMADMAHISGLVAAGVVPSPFEHCHVVT TTHKTLRGCRAGMIF YRKGVKSVDPKT
 GKEILYNLESLINSAVFPLQGGPHNHAIAGVAVALKQAMTLEFKVYQHQQV VANCRA LSEALTELGKIV
 TGGSDNHLILVDLRSGTDGGRAEKVLEACSIACNKNTCPGDRSALRPSGLRLGTPALTSRGLLEKDFQK
 VAHFIHRGIELTLQIQSDTGVRATLKEFKERLAGDKYQAAVQALREEVESFASFPLPLPDF

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6152_d07.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_004169

ORF Size: 1449 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_004169.2](#)

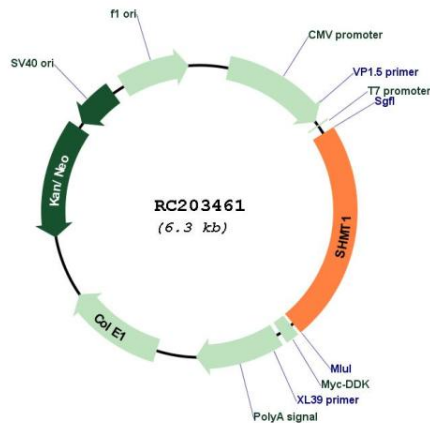
RefSeq Size: 2553 bp

RefSeq ORF: 1452 bp

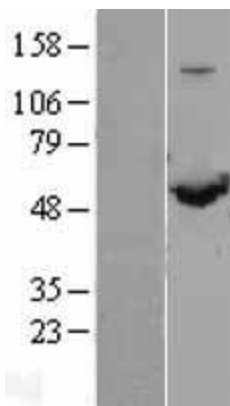
Locus ID: 6470

UniProt ID: [P34896](#)
Cytogenetics: 17p11.2
Domains: SHMT
Protein Pathways: Cyanoamino acid metabolism, Glycine, serine and threonine metabolism, Metabolic pathways, Methane metabolism, One carbon pool by folate
MW: 53.1 kDa
Gene Summary: This gene encodes the cytosolic form of serine hydroxymethyltransferase, a pyridoxal phosphate-containing enzyme that catalyzes the reversible conversion of serine and tetrahydrofolate to glycine and 5,10-methylene tetrahydrofolate. This reaction provides one-carbon units for synthesis of methionine, thymidylate, and purines in the cytoplasm. This gene is located within the Smith-Magenis syndrome region on chromosome 17. A pseudogene of this gene is located on the short arm of chromosome 1. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Aug 2013]

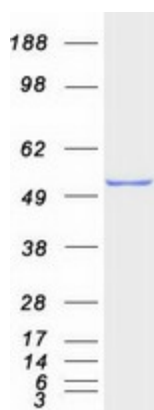
Product images:



Circular map for RC203461



Western blot validation of overexpression lysate (Cat# [LY401341]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC203461 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SHMT1 protein (Cat# [TP303461]). The protein was produced from HEK293T cells transfected with SHMT1 cDNA clone (Cat# RC203461) using MegaTran 2.0 (Cat# [TT210002]).