

## Product datasheet for **RG203461**

### SHMT1 (NM\_004169) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	SHMT1 (NM_004169) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	SHMT1
Synonyms:	CSHMT; SHMT
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RG203461 representing NM\_004169  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGACGATGCCAGTCAACGGGGCCACAAGGATGCTGACCTGTGGTCCTCACATGACAAGATGCTGGCAC  
 AACCCCTCAAAGACAGTGATGTTGAGGTTTACAACATCATTAAAGAAGGAGAGTAACCGGCAGAGGTTGG  
 ATTGGAGCTGATTGCCTCGGAGAATTCGCCAGCCGAGCAGTTTTGGAGGCCCTAGGCTCTTGCTTAAAT  
 AACAAATACTCTGAGGGTACCCGGGCCAGAGATACTATGGCGGGACTGAGTTTATTGATGAACTGGAGA  
 CCCTCTGTGAGAAGCGAGCCCTGCAGGCCATAAGCTGGACCCACAGTGTGGGGGTCAACGTCCAGCC  
 CTACTCAGGCTCCCCTGCAAACCTTGTGTGTACACTGCCCTGGTGAACCCATGGGCGCATCATGGGC  
 CTGGACCTTCCGGATGGGGGCCACCTGACCCATGGGTTTCATGACAGACAAGAAGAAAATCTCTGCCACGT  
 CCATCTTCTTTGAATCTATGCCCTACAAGGTGAACCCAGATACTGGCTACATCAACTATGACCAGCTGGA  
 GGAGAACGCACGCCTCTCCACCGAAGCTGATCATCGCAGGAACAGCTGCTACTCCCGAAACCTGGAA  
 TATGCCCGGCTACGGAAGATTGCAGATGAGAACGGGGCGTATCTCATGGCGGACATGGCTCACATCAGCG  
 GGCTGGTGGCGGCTGGCGTGGTGCCTCCCATTTGAACACTGCCATGTGGTGACCACCACCACTCACAA  
 GACCCTGCGAGGCTGCCGAGCTGGCATGATCTTACAGGAAAGGAGTGAAGTGTGGATCCCAAGACT  
 GGCAAAGAGATTCTGTACAACCTGGAGTCTTTATCAATTCTGTGTGTTCCCTGGCCTGCAGGGAGGTC  
 CCCACAACCACGCCATTGCTGGGGTTGCTGTGGCACTGAAGCAAGCTATGACTCTGGAATTTAAAGTTTA  
 TCAACACCAGGTGGTGGCAACTGCAGGGCTCTGTCTGAGGCCCTGACGGAGCTGGGCTACAAAAATGTC  
 ACAGGTGGTCTGACAACCATTTGATCCTTGTGGATCTCCGTTCCAAAGGCACAGATGGTGAAGGGCTG  
 AGAAGGTGCTAGAAGCCTGTTCTATTGCCTGCAACAAGAACACCTGTCCAGGTGACAGAAGCGCTCTGCG  
 GCCAGTGGACTGCGGCTGGGGACCCAGCACTGACGTCCCGTGGACTTTTGGAAAAAGACTTCCAAAAA  
 GTAGCCACTTTTACAGAGGGATAGAGCTGACCCTGCAGATCCAGAGCGACTGGTGTGAGAGCCA  
 CCCTGAAAGAGTTCAAGGAGAGACTGGCAGGGGATAAGTACCAGCGGCCGTGCAGGCTCTCCGGGAGGA  
 GTTGAGAGCTTCGCTCTTTCTCCCTCTGCCTGGCCTGCCTGACTTC

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>RG203461 representing NM\_004169  
 Red=Cloning site Green=Tags(s)

MTMPVNGAHKDADLWSSHDKMLAQPLKDSDEVYNIKKESNRQVRVLELIASENFASRAVLEALGSCLN  
 NKYSEGYPGQRYGGTEFIDELETLCQKRALQAYKLDPQCWGVNVQPYSGSPANFAVYALVEPHGRIMG  
 LDLPDGGHLTHGFMTDKKISATSIFFESMPYKVNPDGTGYINYDQLEENARLFHPKLI IAGTSCYSRNL  
 YARLRKIADENGAYLMADMAHISGLVAAGVVPSPFEHCHVVTTTTHTKTLRGCRAGMIFYRKGKSVDPKT  
 GKEILYNLESLINSAVFPLQGGPHNHAIAGVAVALKQAMTLEFKVYQHVVANCRALSEALTELGYKIV  
 TGGSDNHLILVDLRSGTGDGRAEKVLEACSIACNKNTCPGDRSALRPSGLRLGTPALTSRGLLEKDFQK  
 VAHFIHRGIELTLQIQSDTGVRATLKEFKERLAGDKYQAAVQALREEVESFASFFPLPLPDF

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

SgfI-MluI

**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.

**RefSeq:** [NM\\_004169.2](#)

**RefSeq Size:** 2540 bp

**RefSeq ORF:** 1452 bp

**Locus ID:** 6470

**UniProt ID:** [P34896](#)

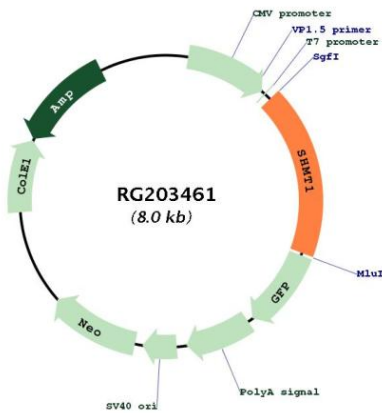
**Cytogenetics:** 17p11.2

**Domains:** SHMT

**Protein Pathways:** Cyanoamino acid metabolism, Glycine, serine and threonine metabolism, Metabolic pathways, Methane metabolism, One carbon pool by folate

**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 RG203461