

## Product datasheet for **RC230153**

### SHMT2 (NM\_001166359) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	SHMT2 (NM_001166359) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SHMT2
Synonyms:	GLYA; HEL-S-51e; NEDCASB; SHMT
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide Sequence:**

>RC230153 representing NM\_001166359  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGCTGTACTTCTTTGTTTTGGGCGGCTCGGCCTCGCAGAGATGTGGCAGCTGGTCAGGATGGCCA  
 TTCGGGCTCAGCACAGCAACGCAGCCAGACTCAGACTGGGGAAGCAAACAGGGGCTGGACAGGCCAGGA  
 GAGCCTGTCGGACAGTGATCCTGAGATGTGGGAGTTGCTGCAGAGGGAGAAGACAGGCAGTGTCGTGGC  
 CTGGAGCTCATTGCCTCAGAGAATTCTGCAGCCGAGCTGCGCTGGAGGCCCTGGGGTCTGTCTGAACA  
 ACAAGTACTCGGAGGGTTATCCTGGCAAGAGATACTATGGGGGAGCAGAGGTGGTGGATGAAATTGAGCT  
 GCTGTGCCAGCGCCGGCCTTGAAGCCTTTGACCTGGATCCTGCACAGTGGGGAGTCAATGTCCAGCCC  
 TACTCCGGTCCCAGCCAACCTGGCCGTACACAGCCCTTCTGCAACCTCACGACCGGATCATGGGGC  
 TGGACCTGCCGATGGGGCCATCTCACCACGGCTACATGTCTGACGTCAAGCGGATATCAGCCACGTC  
 CATCTTCTCGAGTCTATGCCCTATAAGCTCAACCCAAAACCTGGCCTCATTGACTACAACCAGCTGGCA  
 CTGACTGCTCGACTTTTCCGGCCACGGCTCATCATAGCTGGCACCAGCGCCTATGCTCGCCTCATTGACT  
 ACGCCCGCATGAGAGAGGTGTGTGATGAAGTCAAAGCACACCTGCTGGCAGACATGGCCACATCAGTGG  
 CCTGGTGGCTGCCAAGGTGATCCCTCGCCTTTCAAGCACGCGGACATCGTCACCACCACTACTCACAAG  
 ACTCTTCGAGGGGCCAGGTCAAGGCTCATCTTCTACCGAAAGGGGTGAAGGCTGTGGACCCCAAGACTG  
 GCCGGGAGATCCCTTACACATTTGAGGACCGAATCAACTTTGCCGTGTTCCCATCCCTGCAGGGGGGCC  
 CCAACATCATGCCATTGCTGCAGTAGCTGTGGCCCTAAAGCAGGCCTGCACCCCATGTTCCGGGAGTAC  
 TCCCTGCAGGTTCTGAAGAATGCTCGGGCATGGCAGATGCCCTGCTAGAGCGAGGCTACTACTGGTAT  
 CAGGTGTACTGACAACCACCTGGTGTGGTGGACCTGCGGCCCAAGGGCCTGGATGGAGCTCGGGTGA  
 CGGGGTGCTAGAGCTTGTATCCATCACTGCCAACAGAACACCTGCTCGGAGACCGAAGTGCCATCACA  
 CCGGGCGCCTGCGGCTTGGGGCCAGCCTTAACTTCTCGACAGTTCCTGAGGATGACTTCCGGAGAG  
 TTGTGGACTTTATAGATGAAGGGTCAACATTGGCTTAGAGGTGAAGAGCAAGACTGCCAAGCTCCAGGA  
 TTTCAAATCCTTCTGCTTAAGGACTCAGAAACAAGTCAGCGTCTGGCCAACTCAGGCAACGGGTGGAG  
 CAGTTTGCAGGGCCTTCCCATGCCTGGTTTTGATGAGCAT

**ACCGGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC230153 representing NM\_001166359  
 Red=Cloning site Green=Tags(s)

MLYFSLFWAARPLQRCGQLVRMAIRAQHSNAAQTQTGEANRGWTGQESLSDSDPEMWELLQREKDRQCRG  
 LELIASENFCSRAALEALGSCLNNKYSEGYPGKRYYGGAEVVDEIELLCQRRALEAFDLPAQWGVNVQP  
 YSGSPANLAVYTALLQPHDRIMGLDLPDGGHLTHGYMSDVKRISATSIFFESMPYKLNPKTGLIDYNQLA  
 LTARLFRPRLIIAGTSAYARLIDYARMREVCDEVKAHLLADMAHISGLVAAKVIPSPFKHADIVTTTTHK  
 TLRGARSGLIFYRKGKAVDPKTGREIPYTFEDRINFVFPQLQGGPHNHIAAVALKQACTPMFREY  
 SLQVLKNARAMADALLERGYSLVSGGTDNHLVLDLRPKGLDGARAERVLELVSITANKNTCPGDRSAIT  
 PGGLRLGAPALTSRQFREDDFRVVDVIDEGVNIQLEVKSKTAKLQDFKSFLLKDSSETSQRLANLRQVE  
 QFARAFPMGFDEH

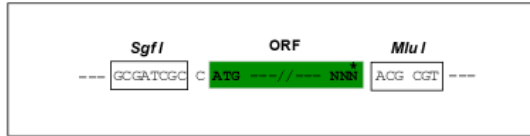
**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

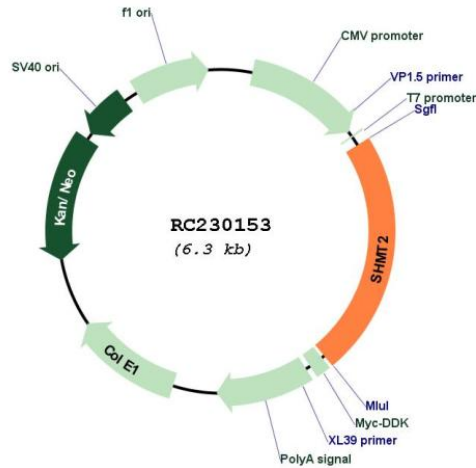
SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**Plasmid Map:**


**ACCN:** NM\_001166359

**ORF Size:** 1515 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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001166359.1</a> , <a href="#">NP_001159831.1</a>
<b>RefSeq Size:</b>	2149 bp
<b>RefSeq ORF:</b>	1452 bp
<b>Locus ID:</b>	6472
<b>UniProt ID:</b>	<a href="#">P34897</a>
<b>Cytogenetics:</b>	12q13.3
<b>Protein Pathways:</b>	Cyanoamino acid metabolism, Glycine, serine and threonine metabolism, Metabolic pathways, Methane metabolism, One carbon pool by folate
<b>MW:</b>	56 kDa
<b>Gene Summary:</b>	This gene encodes the mitochondrial form of a pyridoxal phosphate-dependent enzyme that catalyzes the reversible reaction of serine and tetrahydrofolate to glycine and 5,10-methylene tetrahydrofolate. The encoded product is primarily responsible for glycine synthesis. The activity of the encoded protein has been suggested to be the primary source of intracellular glycine. The gene which encodes the cytosolic form of this enzyme is located on chromosome 17. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Oct 2009]