

Product datasheet for **RC230154**

SHMT2 (NM_001166357) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SHMT2 (NM_001166357) 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:

>RC230154 representing NM_001166357
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCTGTACTTCTTTGTTTTGGGCGGCTCGGCCTCGCAGAGATGTGGCAGCTGGTCAGGATGGCCA
 TTCGGGCTCAGCACAGCAACGCAGCCAGACTCAGACTGGGGAAGCAAACAGGGGCTGGACAGGCCAGGA
 GAGCCTGTCGGACAGTGATCCTGAGATGTGGGAGTTGCTGCAGAGGGAGAAGGACAGGCAGTGCTCGTGGC
 CTGGAGCTCATTGCCTCAGAGAATTCTGCAGCCGAGCTGCGCTGGAGGCCCTGGGGTCTGTCTGAACA
 ACAAGTACTCGGAGGGTTATCCTGGCAAGAGATACTATGGGGGAGCAGAGGTGGTGGATGAAATTGAGCT
 GCTGTGCCAGCGCCGGCCTTGAAGCCTTTGACCTGGATCCTGCACAGTGGGGAGTCAATGTCCAGCCC
 TACTCCGGTCCCAGCCAACCTGGCCGTACACAGCCCTTCTGCAACCTCACGACCGGATCATGGGGC
 TGGACCTGCCGATGGGGCCATCTCACCACGGCTACATGTCTGACGTCAAGCGGATATCAGCCACGTC
 CATCTTCTCGAGTCTATGCCCTATAAGCTCAACCCAAAACCTGGCCTCATTGACTACAACCAGCTGGCA
 CTGACTGCTCGACTTTTCCGGCCACGGCTCATCATAGCTGGCACCAGCGCCTATGCTCGCCTCATTGACT
 ACGCCCGCATGAGAGAGGTGTGTGATGAAGTCAAAGCACACCTGCTGGCAGACATGGCCACATCAGTGG
 CCTGGTGGCTGCCAAGGTGATCCCTCGCCTTTCAAGCACGGGACATCGTCACCACCACTACTCACAAG
 ACTCTTCGAGGGGCCAGGTCAAGGCTCATCTTCTACCGAAAGGGGTGAAGGCTGTGGACCCCAAGACTG
 GCCGGGAGATCCCTTACACATTTGAGGACCGAATCAACTTTGCCGTGTTCCCATCCCTGCAGGGGGGCC
 CCACAATCATGCCATTGCTGCAGTAGCTGTGGCCCTAAAGCAGGCCTGCACCCCATGTTCCGGGAGTAC
 TCCCTGCAGGTTCTGAAGAATGCTCGGGCATGGCAGATGCCCTGCTAGAGCGAGGCTACTCACTGGTAT
 CAGGTGTACTGACAACCACCTGGTGTGCTGGTGGACCTGCGGCCCAAGGGCCTGGATGGAGCTCGGGTGA
 CGGGGTGCTAGAGCTTGTATCCATCACTGCCAACAAGAACACCTGCTCGGAGACCGAAGTGCCATCACA
 CCGGGCGGCTGCGGCTTGGGGCCAGCCTTAACTTCTCGACAGTTCGTGAGGATGACTTCCGGAGAG
 TTGTGGACTTTATAGATGAAGGGTCAACATTGGCTTAGAGGTGAAGAGCAAGACTGCCAAGCTCCAGGA
 TTTCAAATCCTTCTGCTTAAGGACTCAGAAACAAGTCAGCGTCTGGCCAACCTCAGGCAACGGGTGGAG
 CAGTTTGCAGGGCCTTCCCATGCCTGGTTTTGATGAGCAT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC230154 representing NM_001166357
 Red=Cloning site Green=Tags(s)

MLYFSLFWAARPLQRCGQLVRMAIRAQHSNAAQTQTGEANRGWTGQESLSDSDPEMWELLQREKDRQCRG
 LELIASENFCSRAALEALGSCLNNKYSEGYPGKRYYGGAEVVDEIELLCQRRALEAFDLPAQWGVNVQP
 YSGSPANLAVYTALLQPHDRIMGLDLPDGGHLTHGYMSDVKRISATSIFFESMPYKLNPKTGLIDYNQLA
 LTARLFRPRLIIAGTSAYARLIDYARMREVCDEVKAHLLADMAHISGLVAAKVIPSPFKHADIVTTTTTHK
 TLRGARSGLIFYRKGKAVDPKTGREIPYTFEDRINFVFPVSLQGGPHNHIAAVALKQACTPMFREY
 SLQVLKNARAMADALLERGYSLVSGGTDNHLVLDLRPKGLDGARAERVLELVSITANKNTCPGDRSAIT
 PGGLRLGAPALTSRQFREDDFRVVDVIDEGVNIQLEVKSKTAKLQDFKSFLLKDSSETSQRANLQRVE
 QFARAFMPGFDEH

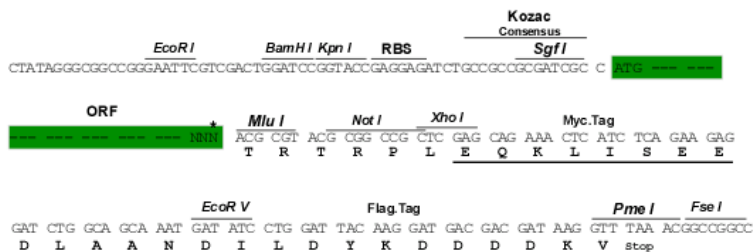
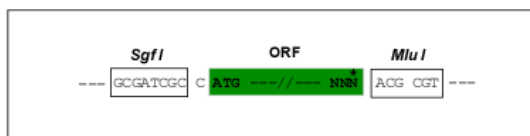
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

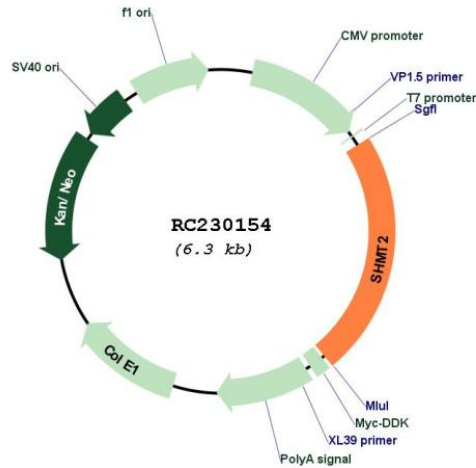
SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:


ACCN: NM_001166357

ORF Size: 1512 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:	<ol style="list-style-type: none">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_001166357.1 , NP_001159829.1
RefSeq Size:	2357 bp
RefSeq ORF:	1452 bp
Locus ID:	6472
UniProt ID:	P34897
Cytogenetics:	12q13.3
Protein Pathways:	Cyanoamino acid metabolism, Glycine, serine and threonine metabolism, Metabolic pathways, Methane metabolism, One carbon pool by folate
MW:	56 kDa
Gene Summary:	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]