

Product datasheet for **RC230172**

SHMT2 (NM_001166356) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SHMT2 (NM_001166356) 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:

>RC230172 representing NM_001166356
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGCTGTACTTCTTTGTTTTGGGCGGCTCGGCCTCGCAGAGATGTGGCAGCTGGTCAGGATGGCCA
 TTCGGGCTCAGCACAGCAACGCAGCCAGACTCAGACTGGGGAAGCAAACAGGGGCTGGACAGGCCAGGA
 GAGCCTGTCGGACAGTGATCCTGAGATGTGGGAGTTGCTGCAGAGGGAGAAGACAGGCAGTGCTCGTGGC
 CTGGAGCTCATTGCCTCAGAGAATTCTGCAGCCGAGCTGCGCTGGAGGCCCTGGGGTCTGTCTGAACA
 ACAAGTACTCGGAGGGTTATCCTGGCAAGAGATACTATGGGGGAGCAGAGGTGGTGGATGAAATTGAGCT
 GCTGTGCCAGCGCCGGCCTTGAAGCCTTTGACCTGGATCCTGCACAGTGGGGAGTCAATGTCCAGCCC
 TACTCCGGTCCCAGCCAACCTGGCCGCTACACAGCCCTTCTGCAACCTCACGACCGGATCATGGGGC
 TGGACCTGCCCGATGGGGCCATCTCACCCACGGCTACATGTCTGACGTCAAGCGGATATCAGCCACGTC
 CATCTTCTCGAGTCTATGCCCTATAAGCTCAACCTGGCACTGACTGCTCGACTTTCCGGCCACGGCTC
 ATCATAGCTGGCACCAGCGCCTATGCTCGCCTCATTGACTACGCCCGCATGAGAGAGGTGTGTGATGAAG
 TCAAAGCACACCTGCTGGCAGACATGGCCACATCAGTGGCTGGTGGCTGCCAAGGTGATTCCCTCGCC
 TTTCAAGCACGGGACATCGTCACCACCACTACTACAAGACTCTTCGAGGGGCCAGGTCAGGGCTCATC
 TTCTACCGGAAAGGGGTGAAGGCTGTGGACCCCAAGACTGGCCGGGAGATCCCTTACACATTTGAGGACC
 GAATCACTTTGCCGTGTTCCATCCCTGCAGGGGGGCCCCACAATCATGCCATTGCTGCAGTAGCTGT
 GGCCCTAAAGCAGGCTGCACCCCATGTTCCGGGAGTACTCCCTGCAGGTTCTGAAGAATGCTCGGGCC
 ATGGCAGATGCCCTGCTAGAGCGAGGCTACTCACTGGTATCAGGTGGTACTGACAACCACCTGGTCTGG
 TGGACCTGCGGCCCAAGGGCCTGGATGGAGCTCGGGCTGAGCGGGTCTAGAGCTTGTATCCACTACTGC
 CAACAAGAACACCTGTCCTGGAGACCGAAGTGCCATCACACCGGGCGGCCCTGCGGCTTGGGGCCCAAGCC
 TTAACCTCTCGACAGTTCGCTGAGGATGACTTCCGGAGAGTTGTGGACTTTATAGATGAAGGGTCAACA
 TTGGCTTAGAGGTGAAGAGCAAGACTGCCAAGCTCCAGGATTTCAATCCTTCTGCTTAAGGACTCAGA
 AACAGTCAGCGTCTGGCCAACCTCAGGCAACGGGTGGAGCAGTTTCCAGGGCCTCCCATGCCTGGT
 TTTGATGAGCAT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC230172 representing NM_001166356
 Red=Cloning site Green=Tags(s)

MLYFSLFWAARPLQRCGQLVRMAIRAQHSNAAQTQTGEANRGWTGQESLSDSDPEMWELLQREKDRQCRG
 LELIASENFCSRAALEALGSCLNNKYSEGYPGKRYYGAEVVDEIELLCQRRALEAFDLPAQWGVNVQP
 YSGSPANLAVYTALLQPHDRIMGLDLPDGGHLTHGYMSDVKRISATSIFFESMPYKLNALTLARLFRPRL
 I IAGTSAYARLIDYARMREVCDEVKAHLLADMAHISGLVAAKVIPSPFKHADIVTTTTHTKTLRGARSLI
 FYRKGVKAVDPKTGREIPYTFEDRINFVFPVSLQGGPHNHIAAVALKQACTPMFREYSLQVLPKNARA
 MADALLERGYSLVSGGTDNHLVLDLRPKGLDGARAERVELVSIITANKNTCPGDRSAITPGGLRLGAPA
 LTSRQFREDDFRRVDFIDEGVNIIGLEVKSKTAKLQDFKSFLLKDSETSQRLANLRQRVEQFARAFMPMPG
 FDEH

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

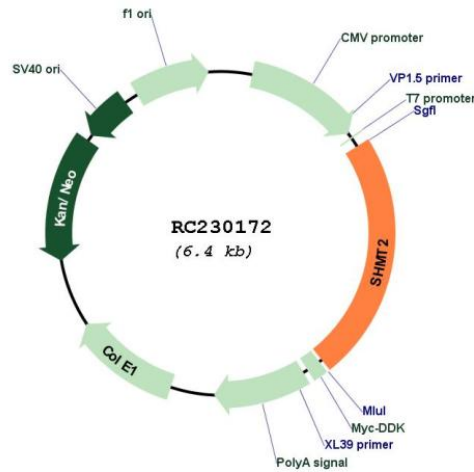
SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:


ACCN: NM_001166356

ORF Size: 1482 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_001166356.2
RefSeq ORF:	1485 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:	55.3 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]