

Product datasheet for **RG204239**

SHMT2 (NM_005412) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SHMT2 (NM_005412) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	SHMT2
Synonyms:	GLYA; HEL-S-51e; NEDCASB; SHMT
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG204239 representing NM_005412
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCTGTACTTCTTTGTTTTGGGCGGCTCGGCCTGCGAGAGATGTGGCAGCTGGTCAGGATGGCCA
 TTCGGGCTCAGCACAGCAACGCAGCCAGACTCAGACTGGGGAAGCAAACAGGGCTGGACAGGCCAGGA
 GAGCCTGTCGGACAGTGATCCTGAGATGTGGGAGTTGCTGCAGAGGGAGAAGACAGGCAGTGTCGTGGC
 CTGGAGCTCATTGCCTCAGAGAATTCTGCAGCCGAGCTGCGCTGGAGGCCCTGGGGTCTGTCTGAACA
 ACAAGTACTCGGAGGGTTATCCTGGCAAGAGATACTATGGGGGAGCAGAGGTGGTGGATGAAATTGAGCT
 GCTGTGCCAGCGCCGGCCTTGAAGCCTTTGACCTGGATCCTGCACAGTGGGGAGTCAATGTCCAGCCC
 TACTCCGGTCCCAGCCAACCTGGCCGTACACAGCCCTTCTGCAACCTCACGACCGGATCATGGGGC
 TGGACCTGCCGATGGGGCCATCTCACCACGGCTACATGTCTGACGTCAAGCGGATATCAGCCACGTC
 CATCTTCTCGAGTCTATGCCCTATAAGCTCAACCCAAAACCTGGCCTCATTGACTACAACCAGCTGGCA
 CTGACTGCTCGACTTTTCCGGCCACGGCTCATCATAGCTGGCACCAGCGCTATGCTCGCCTCATTGACT
 ACGCCCGCATGAGAGAGGTGTGTGATGAAGTCAAAGCACACCTGCTGGCAGACATGGCCACATCAGTGG
 CCTGGTGGCTGCCAAGGTGATCCCTCGCCTTTCAAGCACGCGGACATCGTCACCACCACTACTCACAAG
 ACTCTTCGAGGGGCCAGGTCAGGGCTCATCTTCTACCGAAAGGGGTGAAGGCTGTGGACCCCAAGACTG
 GCCGGGAGATCCCTTACACATTTGAGGACCGAATCAACTTTGCCGTGTTCCCATCCCTGCAGGGGGGCC
 CCAACATCATGCCATTGCTGCAGTAGCTGTGGCCCTAAAGCAGGCCTGCACCCCATGTTCCGGGAGTAC
 TCCCTGCAGGTTCTGAAGAATGCTCGGGCATGGCAGATGCCCTGCTAGAGCGAGGCTACTCACTGGTAT
 CAGGTGGTACTGACAACCACCTGGTGTCTGGTGGACCTGCGGCCCAAGGGCCTGGATGGACCTCGGGTGA
 GCGGGTCTAGAGCTTGTATCCATCACTGCCAACAAAGAACACCTGTCTGGAGACCGAAGTGCCATCACA
 CCGGGCGGCTGCGGCTTGGGGCCAGCCTTAACTTCTCGACAGTTCGTGAGGATGACTTCCGGAGAG
 TTGTGGACTTTATAGATGAAGGGTCAACATTGGCTTAGAGGTGAAGAGCAAGACTGCCAAGCTCCAGGA
 TTTCAAATCCTTCTGCTTAAGGACTCAGAAACAAGTCAGCGTCTGGCCAACTCAGGCAACGGGTGGAG
 CAGTTTGCAGGGCCTTCCCATGCCTGGTTTTGATGAGCAT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG204239 representing NM_005412
 Red=Cloning site Green=Tags(s)

MLYFSLFWAARPLQRCGQLVRMAIRAQHSNAAQTQTGEANRGWTGQESLSDSDPEMWELLQREKDRQCRG
 LELIASENFCSRAALEALGSCLNNKYSEGYPGKRYYGGAEVVDEIELLCQRRALEAFDLPAQWGVNVQP
 YSGSPANLAVYTTALLQPHDRIMGLDLPDGGHLTHGYMSDVKRISATSIFFESMPYKLNPKTGLIDYNQLA
 LTARLFRPRLIIAGTSAYARLIDYARMREVCDEVKAHLLADMAHISGLVAAKVIPSPFKHADIVTTTTHK
 TLRGARSGLIFYRKGVKAVDPKTGREIPYTFEDRINFVFPSSLQGGPHNHAIAAVAVALKQACTPMFREY
 SLQVLKNARAMADALLERGYSLVSGTDNHLVLDLRPKGLDGARAERVELVSIITANKNTCPGDRSAIT
 PGGRLRGAPALTSRQFREDDFRRVVDFIDEGVNIQLEVKSKTAKLQDFKSFLLKDETSQRLANLRQRVE
 QFARAFPMPPGFDEH

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_005412

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:

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_005412.6](#)

RefSeq Size: 2113 bp

RefSeq ORF: 1515 bp

Locus ID: 6472

UniProt ID: [P34897](#)

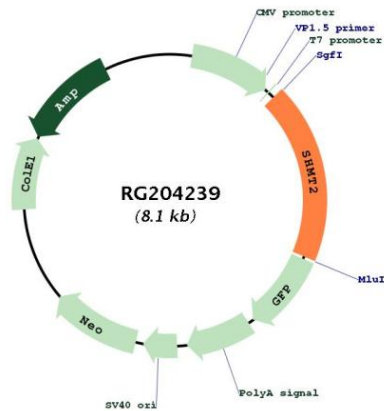
Cytogenetics: 12q13.3

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 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]

Product images:



Circular map for RG204239