

Product datasheet for **MC228056**

Shmt2 (NM_001252316) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Shmt2 (NM_001252316) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Shmt2
Synonyms:	2700043D08Rik; AA408223; AA986903
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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Fully Sequenced ORF: >MC228056 representing NM_001252316
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGTATCCTTCTCTTTGCTTCGGACCACTCGGAGATGTGGTCAGCTGGTCTGCATGGCTGCCCGGGCCC
 AGCACAGCAAGGTGGCCAGACGAGGCTGGGGAAGCAGCTGGAGGTTGGACGGCCAGGAGAGTTTATC
 AGACAGTGACCTGAGATGTGGGAGCTTCTGCAGAGGGAGAAGGACAGACAGTGTGCGCGCCTGGAGCTC
 ATCGCCTCAGAGAACTTCTGCAGCCGAGCTGCGCTGGAGGCCCTGGGGTCTGTCTCAACAACAAGTACT
 CGGAGGGTTACCTGGCAAGAGATACTACGGAGGAGCGGAAGTGGTGGACGAGATCGAGCTGCTCTGCCA
 GCGCCGGGCTTGAAGCCTTTGACCTGGATCCGGCACAGTGGGAGTCAATGTGCAGCCATACTCAGGG
 TCCCCAGCCAATCTGGCTGCCTATACGGCCCTTCTGCAGCCTCATGATCGAATCATGGGGTTGGACCTGC
 CCGATGGGGGCCATCTACCCATGGCTACATGTCTGATGTCAAGCGGATCTCCGCCACATCCATTTTCTT
 CGAGTCTATGCCCTATAAGCTCAATCCCAAACTGGCCTCATCGACTACGACCAGCTGGCGCTGACCGCT
 CGGCTTTTCCGACCGCGCTCATCATAGCTGGCAGAGTGCCTATGCCCGCCTCATTGACTATGCACGCA
 TGAGAGAGGTCTGTGATGAGGTCAGGGCACACCTGCTGGCAGACATGGCCACATCAGTGGCCTGGTGGC
 TGCCAAGGTGATCCCCTCCCCTTTCAAGTACGCGGATGTTGTTACCACCACCACTCACAAGACACTGCGA
 GGGCCAGGTCAGGGCTCATCTTCTACCGGAAGGGAGTACGAACCGTAGACCCCAAGACTGGCAAAGAGA
 TCCCTTATACCTTTGAGGACCGAATCAACTTCGCTGTGTTCCCATCCCTACAGGGTGGCCCCACAACCA
 CGCCATTGCTGCAGTAGCCGTGGCTCTCAAGCAGGCCGCACCCCTATGTTCCGCGAGTACTCCTTACAA
 GTGCTGAGGAACGCCAGGCCATGGCTGATGCCCTGCTCAAGCAGGATACTCGCTGGTGTCTGGTGGCA
 CTGACACCCACTGGTGTGGTGGACCTGCGGCCCAAGGCCTGGATGGAGCCCGAGCCGAACGCGTGT
 GGAACCTGCTCCATCACAGCCAACAAGAACACCTGTCTGGAGACCGGAGCGCCATTACTCCGGGGGGC
 TTGAGGCTTGGGGCCCCGCGTTGACCTCTCGCCAGTTCGCTGAGGACGACTTCCGTAGAGTCTGCGATT
 TTATCGATGAGGGAGTCAACATTGGCTTGGAGGTGAAGCGCAAGACTGCCAAGCTCCAGGATTTCAAATC
 CTTCTGCTCAAAGACCCAGAGACAAGCCAGCGTTTGGCCAACCTCCGGCAACAGGTGGAACAGTTTGCC
 AGGGGCTTCCCCATGCCTGGATTTGATGAACGT**TGA**

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-RsrII
- ACCN:** NM_001252316
- Insert Size:** 1506 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- OTI Annotation:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
- 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_001252316.1](#), [NP_001239245.1](#)

RefSeq Size: 2296 bp

RefSeq ORF: 1506 bp

Locus ID: 108037

UniProt ID: [Q9CZN7](#)

Cytogenetics: 10 D3

Gene Summary: Catalyzes the cleavage of serine to glycine accompanied with the production of 5,10-methylenetetrahydrofolate, an essential intermediate for purine biosynthesis (By similarity). Serine provides the major source of folate one-carbon in cells by catalyzing the transfer of one carbon from serine to tetrahydrofolate (By similarity). Contributes to the de novo mitochondrial thymidylate biosynthesis pathway via its role in glycine and tetrahydrofolate metabolism: thymidylate biosynthesis is required to prevent uracil accumulation in mtDNA (By similarity). Also required for mitochondrial translation by producing 5,10-methylenetetrahydrofolate; 5,10-methylenetetrahydrofolate providing methyl donors to produce the taurinomethyluridine base at the wobble position of some mitochondrial tRNAs (PubMed:29452640). Associates with mitochondrial DNA (By similarity). In addition to its role in mitochondria, also plays a role in the deubiquitination of target proteins as component of the BRISC complex: required for IFNAR1 deubiquitination by the BRISC complex (By similarity). [UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (2) uses a different splice site in the 5' coding region, compared to variant 1. The resulting protein (isoform 2) has a shorter N-terminus when it is compared to isoform 1.