

Proteomic, Transcriptomic, Mutational, and Functional Assays Reveal the Involvement of Both THF and PLP Sites at the GmSHMT08 in Resistance to Soybean Cyst Nematode

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and Khalid Meksem ^{1,*}

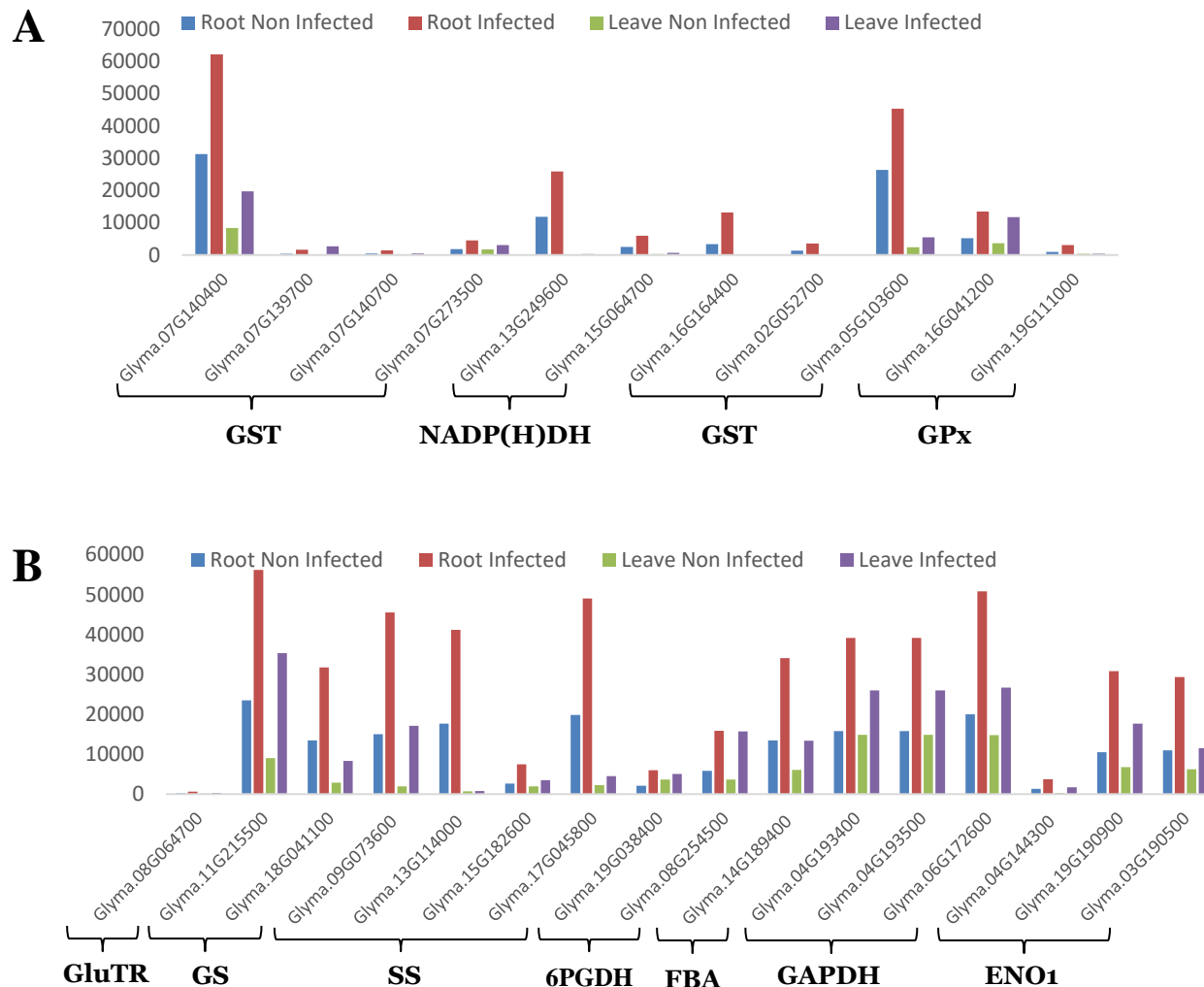
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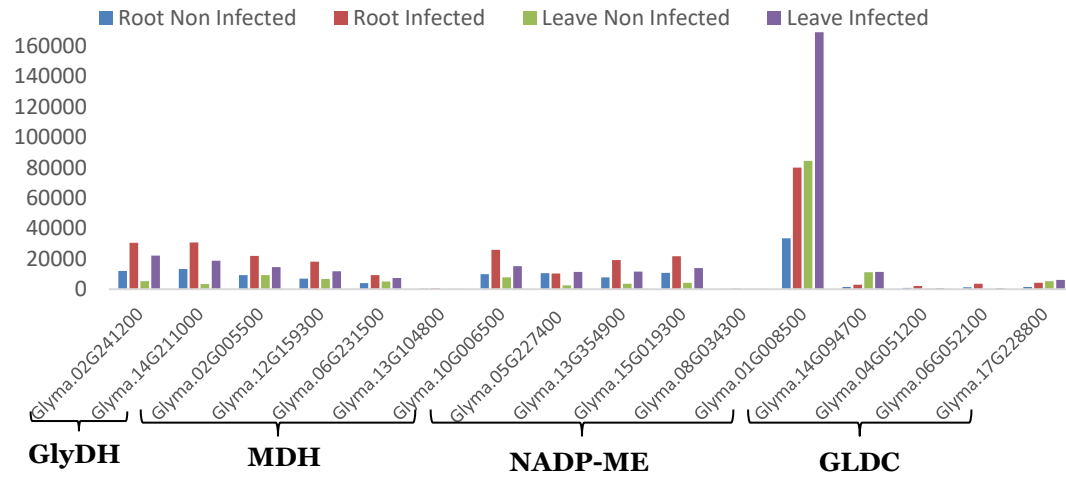
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Supplemental material

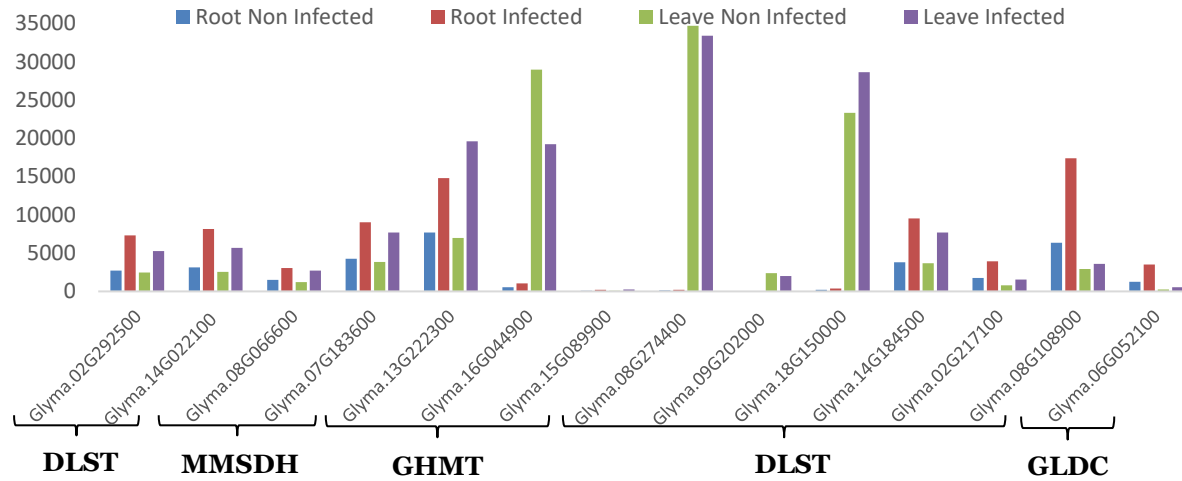


Supplemental Figure S1. Expression analysis of SCN infected (3DAI) and non-infected soybean roots and leaves based on RNAseq data analysis of all the identified genes from mass spectrometry shown in Table S2, corresponding to key components related to redox hemeostasis (A), Glycolysis (B), Glyoxylate cycle (C), Succinyl-CoA and heme biosynthesis related enzymes (D), Cytoskeleton-related genes (E), and ATP mitochondrial related genes (F).

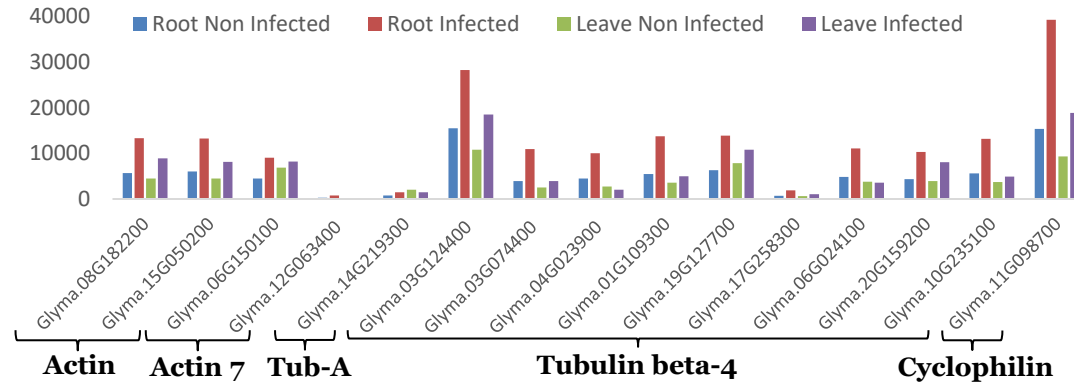
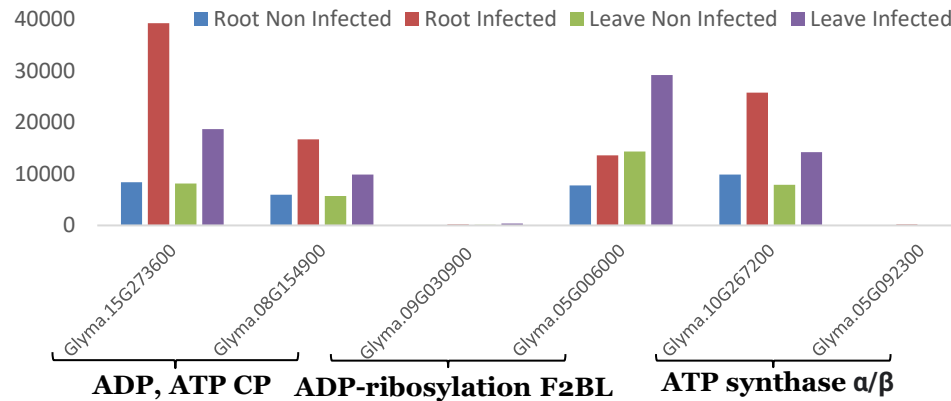
C



D

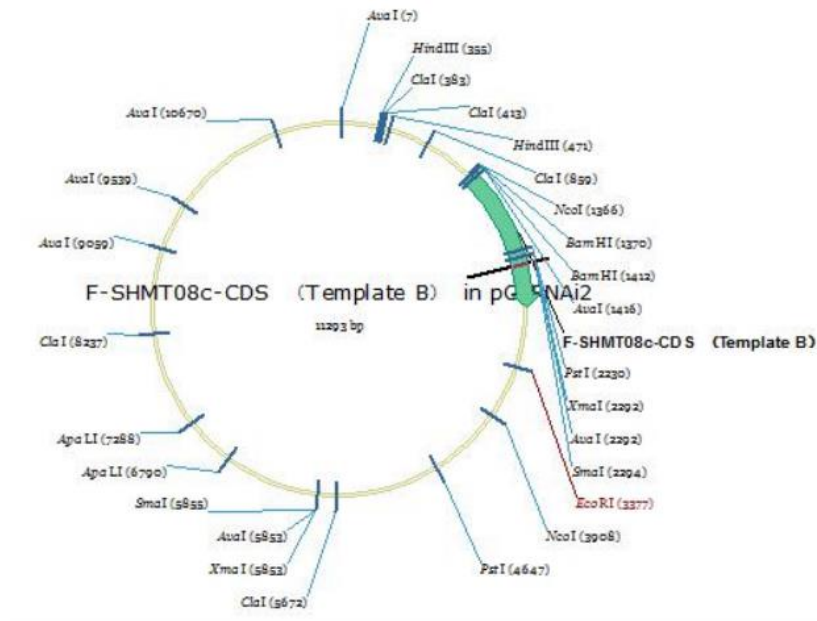
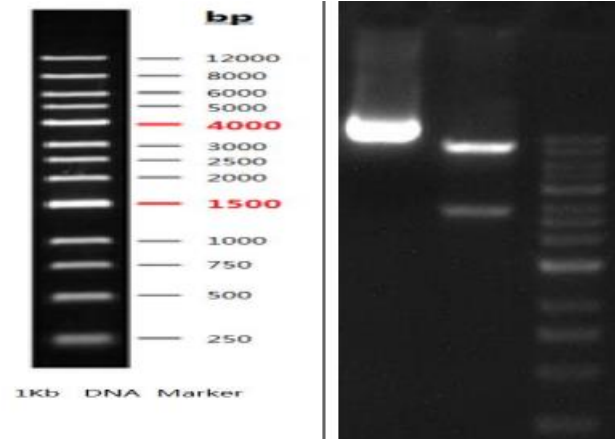


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E**F**

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Cloning Sites Ascl-AvrII



Supplemental Figure S2. F-SHMT08c-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Detailed Sequence of the Whole Construct:

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1  TTGATCCCGA GGGGAACCCT GTGGTTGGCA TGCACATACA AATGGACGAA CGGATAAACC
61  TTTTCACGCC CTTTAAATA TCCGTTATTC TAATAAACGC TCTTTTCTCT TAGGTTTACC
121 CGCCAATATA TCCTGTCAAA CACTGATAGT TTAAACTGAA GGCGGGAAAC GACAATCTGA
181 TCCAAGCTCA AGCTCATTCG CCATTCAGGC TGCGCAACTG TTGGGAAGGG CGATCGGTGC
241 GGGCCTCTTC GCTATTACGC CAGCTGGCGA AAGGGGGATG TGCTGCAAGG CGATTAAGTT
301 GGGTAACGCC AGGGTTTCC CAGTCACGAC GTTGTAACAA GACGGCCAGT GCCAAGCTTA
361 TTACCCTGTT ATCCCTAGAT ATCGATTTTG GCTACCTTAA GGTAGCCAAA ATCGATCACT
421 AGTGCGGGCCG CGGGCCCCAAT ATAACAACGA CGTCGTAACA GATAAAGCGA AGCTTGAAGG
481 TGCATGTGAC TCCGTCAAGA TTACGAAACC GCCAACTACC ACGCAAATTG CAATTCTCAA
541 TTTCTTAGAA GGACTCTCCG AAAATGCATC CAATACCAA TATTACCGGT GTCATAGGCA
601 CCAAGTGACA CCATACATGA ACACGCGTCA CAATATGACT GGAGAAGGGT TCCACACCTT
661 ATGCTATAAA ACGCCCCACA CCCCTCCTCC TTCCTTCGCA GTTCAATTCC AATATATTCC
721 ATTCTCTCTG TGTATTTCCC TACCTCTCCC TTCAAGGTTA GTCGATTTCT TCTGTTTTTC
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841 TGTTTTGTTT GGTTTCATCG ATCTTCAATT TTCATAATCA GATTCAGCTT TTATTATCTT
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1081 AATTACTTCA GATCCGTAA ACAACAGCCT TATTTTTTAT ACTTCTGTGG TTTTCAAGA
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1441 GGAGAAGCGC CGTCAATGCC GCGGAATCGA GCTCATCGCC TCCGAGAACT TCACCTCCTT
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1981	TGATAAGTGC	GGAGCATTGC	TTCTCTGCGA	CATGGCGCAC	ACTAGCGGCC	TTGTGGCCGC
2041	GCAGGAAGTG	AACAGCCCTT	TCGAGTATTG	CGACATTGTG	ACCACCACGA	CTCACAAGAG
2101	CTTGCGGGGC	CCACGTGCGG	GGATGATCTT	TTACCGGAAG	GGCCCCAAGC	CGCCGAAGAA
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2221	TTGCGCTCAG	GGTGGGCCCC	ACAACCACCA	GATCGGTGCT	CTCGCCGTGG	CGCTGAAGCA
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4321	TGGGGCACAA	GCTGGAGTAC	AACTACAACA	GCCACAACGT	CTATATCATG	GCCGACAAGC
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4501	ACAACCACTA	CCTGAGCACC	CAGTCCGCCC	TGAGCAAAGA	CCCCAACGAG	AAGCGCGATC
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4681	GATTGAATCC	TGTTGCCGGT	CTTGCGATGA	TTATCATATA	ATTTCTGTTG	AATTACGTTA
4741	AGCATGTAAT	AATTAACATG	TAATGCATGA	CGTTATTTAT	GAGATGGGTT	TTTATGATTA

Supplemental Figure S2. F-SHMT08c-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

4801	GAGTCCCAGCA	ATTATACATT	TAATACGCGA	TAGAAAACAA	AATATAGCGC	GCAAACCTAGG	8041	GCCTGCCCGG	CCTCCTCCTT	CAAATCGTAC	TCCGGCAGGT	CATTTGACCC	GATCAGCTTG
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5041	AGCTAACTCA	CATTAATTTG	CTGTGCCTCA	CTGCGCGCTG	TCCAGTCCGG	AAACCTGTGTC	8281	TTGGCTTCTG	TGATCTCCGG	GTACATCCAA	TACAGTAGCT	CGATCTCGAT	GTACTCCGGC
5101	TGCCAGCTGC	ATTAATAGAT	GCGCCAGGAG	GCGGGGAGAG	CGGGTTTGGG	TATTGGCTAG	8341	CGCGGGGTTT	GCCTCTTCTT	GATTCTGTAG	CGGCTTAATCA	AGGCTTCCAC	CTCGGATACC
5161	AGCAATTCGG	CGTTAATTCA	GTACATTAATA	AACGTCGCGA	ATGTGTTTAT	AAGTTGTCTA	8401	GTCACCAAGC	GGCCGTTCTT	GGCCTTCTTC	GTACGCTGCA	TGGCAACGTG	CGTGGTGTTC
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5761	ACTAAACTGG	CTGACGGAAT	TTATGCTCTC	TCCGACCATC	AAGCATTTTA	TCCGTACTCC	9001	CCCAGCGCGC	CGCCGATTTG	TACCGGGCGC	GATGGTTTGC	GACCGTCACG	CCGATTCTCT
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7861	TTTCCGGTTC	CAATGTACGG	CTTTGGGTTT	CCAATGTACG	TGATATCCAC	AGGAAAGAGT	11101	GTCTCCGGTT	TGATGCGCAA	GTATTCTACT	TTATGCACT	AAAAACACGC	ACAGAGAAAC
7921	CCTTTTTCGAC	CTTTTTCGCC	TGCTAGGGCA	ATTTGCCCTA	GCATCTGCTC	CGTACATTAG	11161	GCCAGGAAAA	GCGGAGGCGG	GCAGCTGTGC	CGCTAAGTTA	GGACTTGTGC	GACATGTGCT
7981	GAACCGGCGG	ATGCTTCGCC	CTCGATCAGG	TTGCGGTAGC	GCATGACTAG	GATCGGGCCA	11221	TTTCAGAAGA	CGGCTGCACT	GAACGTCAGA	AGCCGACTGC	ACTATAGCAG	CGGAGGGGTT
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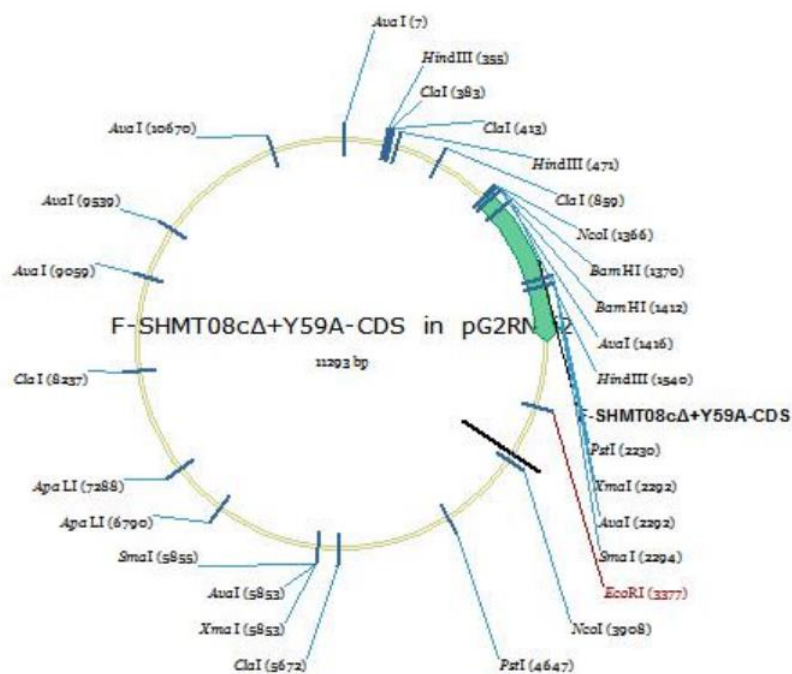
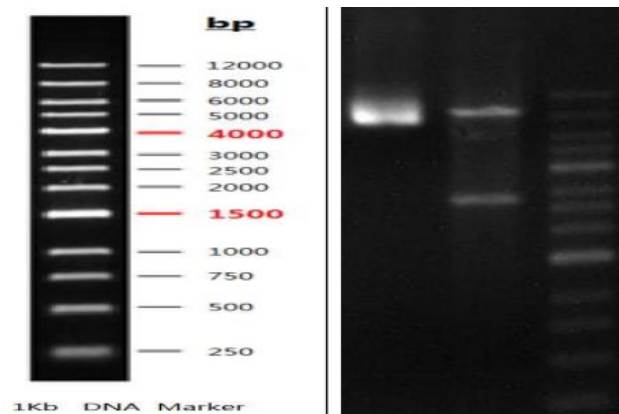
Supplemental Figure S2. F-SHMT08c-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Gene Name F-SHMT08cΔ+Y59A-CDS

Cloning Vector pG2RNAi2

Length (bp) 1430

Cloning Sites Ascl-AvrII



Supplemental Figure S3. F-SHMT08cΔ+Y59A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Detailed Sequence of the Whole Construct:

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1  TTGATCCCGA GGGGAACCCCT GTGGTTGGCA TGCACATACA AATGGACGAA CGGATAAACC
61  TTTTCACGCC CTTTAAATA TCCGTTATTC TAATAAACGC TCTTTTCTCT TAGGTTTACC
121 CGCCAATATA TCCTGTCAAA CACTGATAGT TTAAACTGAA GGCGGGAAAC GACAATCTGA
181 TCCAAGCTCA AGCTCATTCG CCATTCAGGC TGCGCAACTG TTGGGAAGGG CGATCGGTGC
241 GGGCCTCTTC GCTATTACGC CAGCTGGCGA AAGGGGGATG TGCTGCAAGG CGATTAAGTT
301 GGGTAACGCC AGGGTTTTCC CAGTCACGAC GTTGTA AAC GACGGCCAGT GCCAAGCTTA
361 TTACCCTGTT ATCCCTAGAT ATCGATTTTG GCTACCTTAA GGTAGCCAAA ATCGATCACT
421 AGTGC GGCCG CGGGCCCAAT ATAACAACGA CGTCGTAACA GATAAAGCGA AGCTTGAAGG
481 TGCATGTGAC TCCGTCAAGA TTACGAAACC GCCAACTACC ACGCAAATTG CAATTCTCAA
541 TTTCTTAGAA GGACTCTCCG AAAATGCATC CAATACCAA TATTACCCGT GTCATAGGCA
601 CCAAGTGACA CCATACATGA ACACGCGTCA CAATATGACT GGAGAAGGGT TCCACACCTT
661 ATGCTATAAA ACGCCCCACA CCCCTCCTCC TTCCTTCGCA GTTCAATTCC AATATATTCC
721 ATTCTCTCTG TGTATTTCCC TACCTCTCCC TTCAAGGTTA GTCGATTTCT TCTGTTTTTC
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841 TGTTTTGTTT GGTTTCATCG ATCTTCAATT TTCATAATCA GATTCAGCTT TTATTATCTT
901 TACAACAACG TCCTTAATTT GATGATTCTT TAATCGTAGA TTTGCTCTAA TTAGAGCTTT
961 TTCATGTCAG ATCCCTTTAC AACAGCCTT AATTGTTGAT TCATTAATCG TAGATTAGGG
1021 CTTTTTTCAT TGATTACTTC AGATCCGTTA AACGTAACCA TAGATCAGGG CTTTTTCATG
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1681	CGGCTCCCCG	GCCAACCTCG	CCGCCTACAC	CGCCGTCCCT	AACCCCCACG	ACCGCATCAT
1741	GGGGCTAGAT	CTCCGCTCCG	GCGGCCACCT	CACCCACGGC	TACTACACCT	CCGGCGGAAA
1801	GAAGATCTCC	GCCACCTCCA	TTTACTTCGA	GAGTCTCCCT	TACAAGGTAA	ACTCCACCAC
1861	CGGCTACATC	GACTACGACC	GCTTGGAAGA	AAAAGCCCTA	GACTTCAGGC	CAAAACTCAT
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2101	CTTGCGGGGC	CCACGTGCGG	GGATGATCTT	TTACCGGAAG	GGCCCCAAGC	CGCCGAAGAA
2161	GGGGCAGCCG	GAGAACGCGG	TTTATGATTT	CGAGGACAAG	ATTAACCTCG	CGGTGTTCCC
2221	TTGCTGTCAG	GGTGGGCCCC	ACAACCACCA	GATCGGTGCT	CTCGCCGTGG	CGCTGAAGCA
2281	GGCCGCGTCG	CCCGGGTTTA	AGGCCTACGC	GAAGCAGGTT	AAGGCGAACG	CCGTGTCGCT
2341	TGGAATAATAC	TTGATGGGGA	AAGGGTACAG	CCTTGTCACT	GGCGGAACGG	AGAACCATCT
2401	TGTTTTGTGG	GATCTGAGAC	CTCTTGGATT	GACTGGGTAT	AAGGTGGAGA	AACTCTGTGA
2461	TCTCTGTAAC	ATTACTGTTA	ACAAGAACGC	TGTTTTGGT	GATAGCAGTG	CCTGGCCCCC
2521	TGGTGGAGTG	CGAATTGGTG	CCCCTGCCAT	GACTTCTAGG	GGTTTGGTTG	AAAAAGACTT
2581	TGAGCAGATT	GGTGAGTTC	TTACCCGTGC	TGTGACTCTC	ACACTGGAGA	TCCAGAAGGA
2641	GCATGGCAAA	CTTCTCAAGG	ATTTCACAA	GGGTCTCGTC	AACAACAAGG	CTATTGAAGA
2701	TCTCAAAGCT	GATGTTGAGA	AGTCTCTGTC	CTTGTGTTGAC	ATGCTCTGGCT	TCCTGGTATC
2761	TGAAATGAAG	TACAAGGATT	AGCCTAGGTT	CGAGTATTAT	GGCATTGGGA	AAACTGTTTT
2821	TCTTGTACCA	TTTGTGTGTC	TTGTAATTTA	CTGTGTTTTT	TATTCGGTTT	TCGCTATCGA
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3001	AGATATGCAA	ACATTTTGT	TTGAGTAAAA	ATGTGTCAA	TCGTGGCCTC	TAATGACCGA
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3121	AATATATTTT	CAGACCTAGA	AAAGCTGCAA	ATGTTACTGA	ATACAAGTAT	GTCCTCTTGT
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3721	TTATCACAAA	GGAATCTTAT	CCCCCACTAC	TTATCCTTTT	ATATTTTTTCC	GTGTCATTTT
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4201	CCATCTTCTT	CAAGGACGAC	GGCAACTACA	AGACCCGCGC	CGAGGTGAAG	TTGAGGGCG
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4321	TGGGGCACAA	GCTGGAGTAC	AACTACAACA	GCCACAACGT	CTATATCATG	GCCGACAAGC
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4501	ACAACCACTA	CCTGAGCACC	CAGTCCGCC	TGAGCAAAGA	CCCCAACGAG	AAGCGCGATC
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4681	GATTGAATCC	TGTTGCCGGT	CTTGCGATGA	TTATCATATA	ATTTCTGTG	AATTACGTTA
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Supplemental Figure S3. F-SHMT08 Δ +Y59A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

4801	GAGTCCCAGCA	ATTATACATT	TAATACGCGA	TAGAAAACAA	AATATAGCGC	GCAAACCTAGG	8041	GCCTGCCCGG	CCTCCTCCTT	CAAATCGTAC	TCCGGCAGGT	CATTTGACCC	GATCAGCTTG
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4921	GAGAAATTAAT	TCGTAATCAT	GTCATAGCTG	TTTCTCTGTG	GAAATTTGTTA	TCCGCTCACAA	8161	TTGAAACAACC	ATCTGGGCTTC	TGCCTTGCCCT	GCGGCGAGCG	GTGGCAGGAA	GTAGAGAAAA
4981	ATTCCACACA	ACATACGAGC	CGGAAGCATA	AAGTGTAAG	CCTGGGGTGC	CTAATGAGTG	8221	CGGCCGATGC	CGGGATCGAT	CAAAAAGTAA	TCCGGGTGAA	CCGTCAGCAC	GTCCGGGTTC
5041	AGCTAACTCA	CATTAATTTG	CTTGCGCTCA	CTGCGCGCTG	TCCAGTCCGG	AAACCTGTGCG	8281	TTGCGCTTCTG	TGATCTCCGG	GTACATCCAA	TACAGTAGCT	CGATCTCGAT	GTACTCCGCG
5101	TGCCAGCTGC	ATTAATAGTC	GCGCCACGCA	GCGGCGGAGT	CGGGTTTGGG	TATTGGCTAG	8341	GCGCGGGTGT	GCTCTTTTCT	GATTTGTGTG	CGGCTTAATCA	AGGCTTTCAC	CTCGGATACC
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6301	TGGTATTGAT	GGCCCTGTGA	TGAATAAAT	GCAGTTTACG	TGTAGTCTCG	ATGAGTTTTT	9541	GGGTTCTGAT	TCAAGAACGG	TTGTGCCGCG	GGCGGCGATG	CCTGGGTAGC	TCACGCGCTG
6361	CTAAGAATTA	ATTCATGATC	CTGCATGACC	AAAATCCCTT	AACGTGAGTT	TTCGTTCCAC	9601	CGTGATACGC	GATCTCAAGA	TGGGCGAGTC	GTACCCGCGC	AGCGCCTCGT	CAACTCACCC
6421	TGAGCGTCA	ACCCCGTAGA	AAAGATCAAA	GGATCTTCTT	GAGATCTCTT	TTTTCTGCGC	9661	GCCGATGCGC	GTGCTTTTGA	TCGCCCCGTA	CACGACAAAG	GCGGCTTGTA	GCCCTTCCAT
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6841	CAGCGTGAGC	TATGAGAAAG	CGCCACGCTT	CCCGAAGGGA	GAAAGGCGGA	CAGGTATCCG	10081	CTGGTTAAGT	ACAGCGATAA	CCTTCATGCG	TTCCCTTTGC	GTATTTGTTT	ATTTACTCAT
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7201	AGCGAGCTCAG	TGAGCGGAGA	AGCGGAAGAG	CGCCTGTAGC	GGTATTTTCT	CCTTACGACT	10441	CCGCGAGGCG	GTGCGGCTCG	GTCAATGCGT	CCTGACGGAA	GGCAGCGCGC	CGCCTGGCCT
7261	CTGTGCGGTA	TTTCAACCGC	CATATGGTGC	ACTCTCAGTA	AAATCTGCTG	TGATGCCGCA	10501	CGGTGGGCGT	CACCTTCTCG	CTGCGCTCAA	GTGCGCGGTA	CAGGTCGAG	CGATGCACGC
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7681	TTTTTGCAGC	CTTCGGCTGT	GCGCTGGCCA	CACAGCGGAG	CGCGGCTTTTA	CGGCTGCTG	10921	GGTCAAGCAT	CCTGGCCACG	TCCGGGCGGT	CGCGCCTGGT	GCCGGTGATC	TTCTCGGAAA
7741	AGAGTTTTAA	TAAAGTTTTAA	AGAGTTTTAG	GCGGAAAAAT	CGCCTTTTTT	CTCTTTTATA	10981	ACAGCTTTGT	GACGCGCGCC	GCGGTGAGTT	GCTGTGCAAG	TCCTGGTCAAG	TCCTGGTCAAG
7801	TCAGTCACTT	ACATGTGTGA	CCGGTTCCCA	ATGTACGGCT	TTGGGTTCCC	AATGTACGGG	11041	CGGTGCTGAC	GCGGCGATAG	CCCAGCAGGC	CAGCGGCGGC	GCTCTGTGTC	ATGGCGTAAT
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							11281	GGATCAAAAG	ACT				

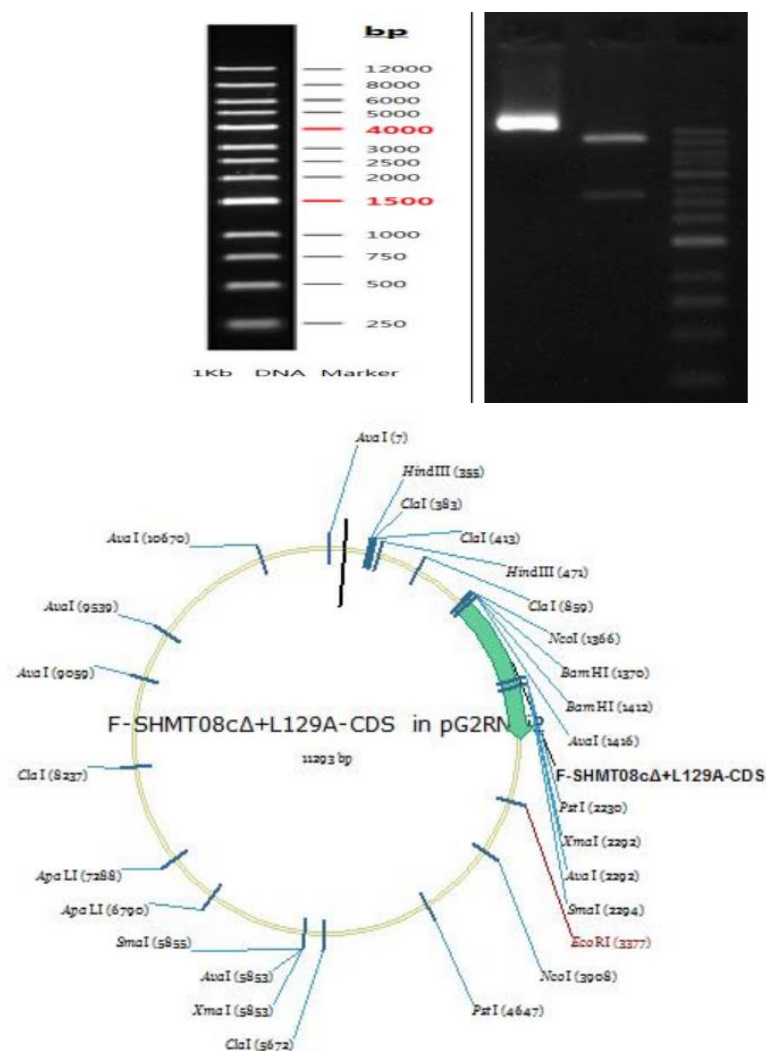
Supplemental Figure S3. F-SHMT08cΔ+Y59A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Gene Name F-SHMT08cΔ+L129A-CDS

Cloning Vector pG2RNAi2

Length (bp) 1430

Cloning Sites *Ascl*-*AvrII*



Supplemental Figure S4. F-SHMT08cΔ+L129A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Detailed Sequence of the Whole Construct:

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1  TTGATCCCGA GGGGAACCCCT GTGGTTGGCA TGCACATACA AATGGACGAA CGGATAAACC
61  TTTTCACGCC CTTTTAAATA TCCGTTATTC TAATAAACGC TCTTTTCTCT TAGGTTTACC
121 CGCCAATATA TCCTGTCAAA CACTGATAGT TTAAACTGAA GCGGGGAAAC GACAATCTGA
181 TCCAAGCTCA AGCTCATTCG CCATTGAGGC TGCGCAACTG TTGGGAAGGG CGATCGGTGC
241 GGGCCTCTTC GCTATTACGC CAGCTGGCGA AAGGGGGATG TGCTGCAAGG CGATTAAGTT
301 GGGTAACGCC AGGGTTTTCC CAGTCACGAC GTTGTAAAAC GACGGCCAGT GCCAAGCTTA
361 TTACCCTGTT ATCCCTAGAT ATCGATTTTG GCTACCTTAA GGTAGCCAAA ATCGATCACT
421 AGTGCGGCCG CGGGCCCAAT ATAACAACGA CGTCGTAACA GATAAAGCGA AGCTTGAAGG
481 TGCATGTGAC TCCGTCAAGA TTACGAAACC GCCAACTACC ACGCAAATTG CAATTCTCAA
541 TTTCTAGAA GGACTCTCCG AAAATGCATC CAATACCAA TATTACCCGT GTCATAGGCA
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661 ATGCTATAAA ACGCCCCACA CCCCTCCTCC TTCCTTCGCA GTTCAATTCC AATATATTCC
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841 TGTTTTGTTT GGTTTCATCG ATCTTCAATT TTCATAATCA GATTCAGCTT TTATTATCTT
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961 TTCATGTCAG ATCCCTTTAC AACAAGCCTT AATTGTTGAT TCATTAATCG TAGATTAGGG
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1261 TTTTTTTTCA CGAGATTGCT TCAGATCCGT ACTTAAGATT ACGTAATGGA TTTTGATTCT
1321 GATTTATCTG TGATTGTTGA CTCGACAGCG GCCGCACCGG CGCGCCATGG ATCCAGTAAG
1381 CGTGTGGGGT AACACGCCCT TGGCGACGGT GGATCCCAGG ATCCATGACC TCATCGAGAA
1441 GGAGAAGCGC CGTCAATGCC GCGGAATCGA GTCATCGCC TCCGAGAACT TCACCTCCTT

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1501	CGCCGTCATC	GAGGCCCTCG	GCAGCCCTCT	CACGAACAAA	TACTCCGAGG	GCATGCCGGG
1561	CAACCGCTAC	TACGGCGGCA	ATGAATACAT	CGACCAGATC	GAAAACCTCT	GCCGCTCACG
1621	CGCCCTCCAA	GCCTTCCACC	TCGACGCCCA	ATCCTGGGGC	GTCAACGTCC	AGCCCTACTC
1681	CGGCTCCCCG	GCCAACTTCG	CCGCCTACAC	CGCCGTCTCT	AACCCCCACG	ACCGCATCAT
1741	GGGGCTAGAT	GCTCGCTCCG	GCGGCCACCT	CACCCACGGC	TACTACACCT	CCGGCGGAAA
1801	GAAGATCTCC	GCCACCTCCA	TTTACTTCGA	GAGTCTCCCT	TACAAGGTAA	ACTCCACCAC
1861	CGGCTACATC	GACTACGACC	GCTTGGAAGA	AAAAGCCCTA	GACTTCAGGC	CAAAACTCAT
1921	AATCTGCGGT	GGCAGCGCGT	ACCCTCGCGA	TTGGGACTAC	AAACGTTTCA	GGGAAGTCGC
1981	TGATAAGTGC	GGAGCATTGC	TTCTCTGCGA	CATGGCGCAC	ACTAGCGGCC	TTGTGGCCGC
2041	GCAGGAAGTG	AACAGCCCTT	TCGAGTATTG	CGACATTGTG	ACCACCACGA	CTCACAAAGAG
2101	CTTGCGGGGG	CCACGTGCGG	GGATGATCTT	TTACCGGAAG	GGCCCCAAGC	CGCCGAAGAA
2161	GGGGCAGCCG	GAGAACGCGG	TTTATGATTT	CGAGGACAAG	ATTAACCTCG	CGGTGTTCCC
2221	TTGCTGTCAG	GGTGGGCCCC	ACAACCACCA	GATCGGTGCT	CTCGCCGTGG	CGCTGAAGCA
2281	GGCCGCGTCG	CCCGGGTTTA	AGGCCTACGC	GAAGCAGGTT	AAGGCGAACG	CCGTTGCGCT
2341	TGGAAAATAC	TTGATGGGGA	AAGGGTACAG	CCTTGTCACT	GGCGGAACGG	AGAACCATCT
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2461	TCTCTGTAAC	ATTACTGTTA	ACAAGAACGC	TGTTTTTGGT	GATAGCAGTG	CCTTGGCCCC
2521	TGGTGGAGTG	CGAATTGGTG	CCCCTGCCAT	GACTTCTAGG	GGTTTGGTTG	AAAAAGACTT
2581	TGAGCAGATT	GGTGAGTTC	TTCAACGTGC	TGTGACTCTC	AACTGGAGA	TCCAGAAGGA
2641	GCATGGCAAA	CTTCTCAAGG	ATTTCAACAA	GGGTCTCGTC	AACAACAAGG	CTATTGAAGA
2701	TCTCAAAGCT	GATGTTGAGA	AGTTCTCTGC	CTGTTTGAC	ATGCCTGGCT	TCCTGGTATC
2761	TGAAATGAAG	TACAAGGATT	AGCCTAGGTT	CGAGTATTAT	GGCATTGGGA	AAACTGTTTT
2821	TCTTGTAACA	TTTGTTGTGC	TTGTAATTTA	CTGTGTTTTT	TATTCGTTT	TCGCTATCGA
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2941	TCAAATTAAT	ATTATTTGTT	TTTTCTCTTA	TTTGTTGTGT	GTGAATTG	AAATTATAAG
3001	AGATATGCAA	ACATTTTGTT	TTGAGTAAAA	ATGTGTCAAA	TCGTGGCCTC	TAATGACCGA
3061	AGTTAATATG	AGGAGTAAAA	CACTTGTAGT	TGTACCATTA	TGCTTATCA	CTAGGCAACA
3121	AATATATTTT	CAGACCTAGA	AAAGCTGCAA	ATGTTACTGA	ATACAAGTAT	GTCTCTTGTT
3181	GTTTTAGACA	TTTATGAACT	TTCCTTTATG	TAATTTTCCA	GAATCCTTGT	CAGATTCTAA
3241	TCATTGCTTT	ATAATTATAG	TTATACTCAT	GGATTTGTAG	TTGAGTATGA	AAATATTTTT
3301	TAATGCATTT	TATGACTTGC	CAATTGATTG	ACAACATGCA	TCAATCCGCG	GTTATGACTC
3361	TCTTAAGAGA	GTCATGAATT	CGAGCTTCCA	GAAGGTAATT	ATCCAAGATG	TAGCATCAAG
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3481	AATATGCGGC	ACATATGCAA	CCTATGTTC	AAAATGAAGA	ATGTACAGAT	ACAAGATCCT
3541	ATACTGCCAG	AATACGAAGA	AGAATACGTA	GAAATTGAAA	AAGAAGAACC	AGGCGAAGAA
3601	AAGAATCTTG	AAGACGTAAG	CACTGACGAC	AACAATGAAA	AGAAGAAGAT	AAGGTCGGTG
3661	ATTGTGAAAG	AGACATAGAG	GACACATGTA	AGGTGGAAAA	TGTAAGGGCG	GAAAGTAACC
3721	TTATCACAAA	GGAATCTTAT	CCCCACTAC	TTATCCTTTT	ATATTTTTC	GTGTCATTTT
3781	TGCCCTTGAG	TTTTCCTATA	TAAGGAACCA	AGTTCGGCAT	TTGTGAAAAC	AAGAAAAAAT
3841	TTGGTGTAAG	CTATTTTCTT	TGAAGTACTG	AGGATACAAC	TTCAGAGAAA	TTTGTAAGTT
3901	TGTGATCCAT	GGTGAGCAAG	GGCGAGGAGC	TGTTACCCGG	GGTGGTGCCC	ATCCTGGTCG
3961	AGCTGGACGG	CGACGTAAAC	GGCCACAAGT	TCAGCGTGTC	CGGCGAGGGC	GAGGGCGATG
4021	CCACCTACGG	CAAGCTGACC	CTGAAGTTCA	TCTGCACCAC	CGGCAAGCTG	CCCGTGCCCT
4081	GGCCACCCTT	CGTGACCACC	TTCACCTACG	GCGTGCAGTG	CTTCAGCCGC	TACCCCGACC
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4201	CCATCTTCTT	CAAGGACGAC	GGCAACTACA	AGACCCGCGC	CGAGGTGAAG	TTCGAGGGCG
4261	ACACCTTGGT	GAACCGCATC	GAGCTGAAGG	GCATCGACTT	CAAGGAGGAC	GGCAACATCC
4321	TGGGGCACAA	GCTGGAGTAC	AACTACAACA	GCCACAACGT	CTATATCATG	GCCGACAAGC
4381	AGAAGAACGG	CATCAAGGTG	AACTTCAAGA	TCCGCCACAA	CATCGAGGAC	GGCAGCGTGC
4441	AGCTCGCCGA	CCACTACCAG	CAGAACACCC	CCATCGGCGA	CGGCCCCGTG	CTGCTGCCCG
4501	ACAACCACTA	CCTGAGCACC	CAGTCCGCCC	TGAGCAAAGA	CCCCAACGAG	AAGCGCGATC
4561	ACATGGTCCT	GCTGGAGTTC	GTGACCGCCG	CCGGGATCAC	TCACGGCATG	GACGAGCTGT
4621	ACAAGTAAAG	CGGCCGCCCG	GCTGCAGATC	GTTCAAACAT	TTGGCAATAA	AGTTTCTTAA
4681	GATTGAATCC	TGTTGCCGGT	CTTGCGATGA	TTATCATATA	ATTTCTGTTG	AATTACGTTA

Supplemental Figure S4. F-SHMT08cΔ+L129A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

4801	GAGTCCCAGCA	ATTATACATT	TAATACGCGA	TAGAAAACAA	AATATAGCGC	GCAAACCTAGG	8041	GCCTGCCCGG	CCTCCTCCTT	CAAATCGTAC	TCCGGCAGGT	CATTTGACCC	GATCAGCTTG
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5161	AGCAATTCCG	CGTTAATTCA	GTACATTAATA	AACGTCGCGA	ATGTGTTATT	AAGTTGTCTA	8401	GTCACCAAGC	GGCCGTTCTT	GGCCTTCTTC	GTACGCTGCA	TGGCAACGTG	CGTGGTGTTC
5221	AGCGTCAATT	TGTTTACACC	ACAATATATC	CTGCCACCAG	CCAGCCAAACA	GCTCCCCGAC	8461	AACCGAATGC	AGGTTTCTAC	CAGGTCGTCT	TTCTGCTTTC	CGCCATCGGC	TCCGCGCGCT
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5401	ACGGCAACTA	AGCTGCCGGG	TTTGAACAC	GGATGATCTC	GCGGAGGGTA	GCATGTTGAT	8641	TCCCAACAC	TGCCATGCC	GGCCGGCCCT	GCGGAAACCT	CTACGTCGCC	GTCTGGAAGC
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5521	TTACATAAAC	AGTAATACAA	GGGGTGTTAT	GAGCCATATT	CAACGGGAAA	CGTCTTGCTC	8761	TCCATGATGC	TGCGACTATC	GCGGGTGCCC	ACGTCATAGA	GCATCGGAAC	GAAAAAATCT
5581	TAGCCCGCGA	TTAAATTCCA	ACATGGATGC	TGATTATAT	GGGTATAAAT	GGGCTCGCGA	8821	GGTTGCTCGT	CGCCCTTGCG	CGGCTTCCTA	ATCGACGGCG	CACCGCGCTC	CGGCGGTTGC
5641	TAAATGTCGG	CAATCAGGTG	CGACAATCTA	TCGATTGTAT	GGGAAGCCCG	ATGCGCCAGA	8881	CGGGATCTCT	TGCGGATTCG	ATCAGCGCGC	GCTTGCCACG	ATTCACCTGG	CGGTGCTTCT
5701	TTGTTTCTTG	AAACATGGCA	AGAGTAGCGT	TGCCAATGAT	TTTACAGATG	AGATGGTTCAG	8941	GCTTCGATGC	TTTCCGCTGG	GCGGCGCTGC	GCGGCGCTTCA	ACTTCTCCAC	CAGGTCATCA
5761	ACTAAACTGG	CTGACGGAAT	TTATGCTCTC	TCCGACCATC	AAGCATTTTA	TCCGTACTCC	9001	CCCAGCGCGC	CGCCGATTTG	TACCGGGCGC	GATGGTTTGC	GACCGTCACG	CCGATTCTCT
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7321	TAGTTAAGCC	AGTATACACT	CCGCTATCGC	TACGTGACTG	GGTCATGGCT	GCGCCCCGAC	10561	CAAGCAGTGC	AGCCGCTCTT	TTACGGTGC	GGCCTTCTGT	GTGATCAGC	TCCGGGCGCT
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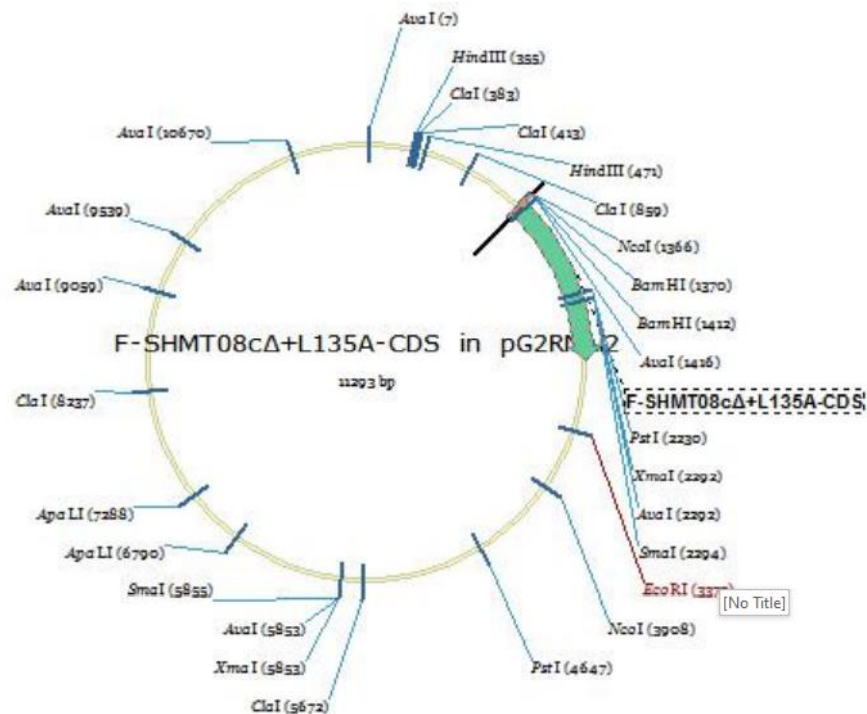
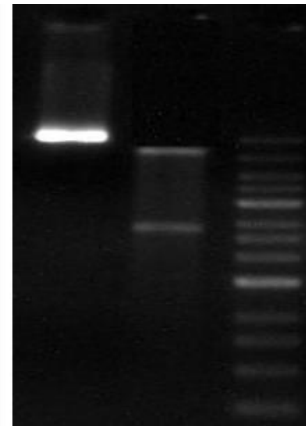
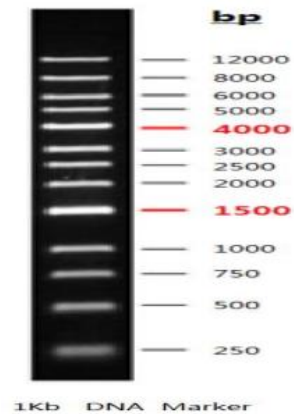
Supplemental Figure S4. F-SHMT08cΔ+L129A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Gene Name F-SHMT08cΔ+L135A-CDS

Cloning Vector pG2RNAi2

Length (bp) 1430

Cloning Sites Ascl-AvrII



Supplemental Figure S5. F-SHMT08cΔ+L135A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Detailed Sequence of the Whole Construct:

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1  TTGATCCCGA GGGGAACCCT GTGGTTGGCA TGCACATACA AATGGACGAA CGGATAAACC
61  TTTTCACGCC CTTTTAAATA TCCGTTATTC TAATAAACGC TCTTTTCTCT TAGGTTTACC
121 CGCCAATATA TCCTGTCAAA CACTGATAGT TTAAACTGAA GGCGGGAAAC GACAATCTGA
181 TCCAAGCTCA AGCTCATTCG CCATTGAGGC TGCGCAACTG TTGGGAAGGG CGATCGGTGC
241 GGGCCTCTTC GCTATTACGC CAGCTGGCGA AAGGGGGATG TGCTGCAAGG CGATTAAGTT
301 GGGTAACGCC AGGGTTTTTC CAGTCACGAC GTTGTAATAAC GACGGCCAGT GCCAAGCTTA
361 TTACCCTGTT ATCCCTAGAT ATCGATTTTG GCTACCTTAA GGTAGCCAAA ATCGATCACT
421 AGTGCGGCCG CGGGCCCAAT ATAACAACGA CGTCGTAACA GATAAAGCGA AGCTTGAAGG
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601 CCAAGTGACA CCATACATGA ACACGCGTCA CAATATGACT GGAGAAGGGT TCCACACCTT
661 ATGCTATAAA ACGCCCCACA CCCCTCCTCC TTCCTTCGCA GTTCAATTCC AATATATTCC
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961 TTCATGTCAG ATCCCTTTAC AACAAGCCTT AATTGTTGAT TCATTAATCG TAGATTAGGG
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1261 TTTTTTTTCA CGAGATTGCT TCAGATCCGT ACTTAAGATT ACGTAATGGA TTTTGATTCT
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1381 CGTGTGGGGT AACACGCCCT TGGCGACGGT GGATCCCGAG ATCCATGACC TCATCGAGAA
1441 GGAGAAGCGC CGTCAATGCC GCGGAATCGA GCTCATCGCC TCCGAGAACT TCACCTCCTT
1501 CGCCGTCATC GAGGCCCTCG GCAGCGCTCT CACGAACAAA TACTCCGAGG GCATGCCGGG

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1561	CAACCGCTAC	TACGGCGGCA	ATGAATACAT	CGACCAGATC	GAAAACCTCT	GCCGCTCACC
1621	CGCCCTCCAA	GCCTTCCACC	TCGACGCCCCA	ATCCTGGGGC	GTCAACGTCC	AGCCCTACTC
1681	CGGCTCCCCG	GCCAACTTCG	CCGCCATACAC	CGCCGTCTCT	AACCCCCACG	ACCGCATCAT
1741	GGGGCTAGAT	CTCCGCTCCG	GCGGCCACGC	TACCCACGGC	TACTACACCT	CCGGCGGAAA
1801	GAAGATCTCC	GCCACCTCCA	TTTACTTCGA	GAGTCTCCCT	TACAAGGTAA	ACTCCACCAC
1861	CGGCTACATC	GACTACGACC	GCTTGAAGA	AAAAGCCCTA	GACTTCAGGC	CAAAACTCAT
1921	AATCTGCGGT	GGCAGCGCGT	ACCCTCGCGA	TTGGGACTAC	AAACGTTTCA	GGGAAGTCGC
1981	TGATAAGTGC	GGAGCATTGC	TTCTCTGCGA	CATGGCGCAC	ACTAGCGGCC	TTGTGGCCGC
2041	GCAGGAAGTG	AACAGCCCCCT	TCGAGTATTG	CGACATTGTG	ACCACCACGA	CTCACAAGAG
2101	CTTGCGGGGC	CCACGTGCGG	GGATGATCTT	TTACCGGAAG	GGCCCCAAGC	CGCCGAAGAA
2161	GGGGCAGCCG	GAGAACGCGG	TTTATGATTT	CGAGGACAAG	ATTAACCTCG	CGGTGTTCCT
2221	TTGCGTGCAG	GGTGGGCCCC	ACAACCACCA	GATCGGTGCT	CTCGCCGTGG	CGCTGAAGCA
2281	GGCCGCGTCG	CCCGGGTTTA	AGGCCATACG	GAAGCAGGTT	AAGGCGAACG	CCGTGCGGCT
2341	TGGAAAATAC	TTGATGGGGA	AAGGGTACAG	CCTTGTCAC	GGCGGAACGG	AGAACCATCT
2401	TGTTTTGTGG	GATCTGAGAC	CTCTGGGATT	GACTGGGTAT	AAGGTGGAGA	AACTCTGTGA
2461	TCTCTGTAAC	ATTACTGTTA	ACAAGAACGC	TGTTTTTGGT	GATAGCAGTG	CCTTGGCCCC
2521	TGGTGGAGTG	CGAATTGGTG	CCCCTGCCAT	GACTTCTAGG	GGTTTGGTTG	AAAAAGACTT
2581	TGAGCAGATT	GGTGAGTTCC	TTACCCGTGC	TGTGACTCTC	ACACTGGAGA	TCCAGAAGGA
2641	GCATGGCAAA	CTTCTCAAGG	ATTTCAACAA	GGGTCTCGTC	AACAACAAGG	CTATTGAAGA
2701	TCTCAAAGCT	GATGTTGAGA	AGTTCTCTGC	CTTGTTTGAC	ATGCCTGGCT	TCCTGGTATC
2761	TGAAATGAAG	TACAAGGATT	AGCCTAGGTT	CGAGTATTAT	GGCATTGGGA	AAACTGTTTT
2821	TCTGTACCA	TTTGTGTGTC	TTGTAATTTA	CTGTGTTTTT	TATTCGGTTT	TCGTATCGA
2881	ACTGTGAAAT	GGAAATGGAT	GGAGAAGAGT	TAATGAATGA	TATGGTCCTT	TTGTTCATTC
2941	TCAAATTAAT	ATTATTTGTT	TTTTCTCTTA	TTTGTGTGTG	GTTGAATTTG	AAATTATAAG
3001	AGATATGCAA	ACATTTTGT	TTGAGTAAAA	ATGTGTCAAA	TCGTGGCCTC	TAATGACCGA
3061	AGTTAATATG	AGGAGTAAAA	CACCTGTAGT	TGTACCATTA	TGCTTATTCA	CTAGGCAACA
3121	AATATATTTT	CAGACCTAGA	AAAGCTGCAA	ATGTTACTGA	ATACAAGTAT	GTCCTCTTGT
3181	GTTTTAGACA	TTTATGAAC	TTCTTTATG	TAATTTTCCA	GAATCCTTGT	CAGATTCTAA
3241	TCATTGCTTT	ATAATTATAG	TTATACTCAT	GGATTTGTAG	TTGAGTATGA	AAATATTTTT
3301	TAATGCATTT	TATGACTTGC	CAATTGATTG	ACAACATGCA	TCAATCCGCG	GTTATGACTC
3361	TCTTAAGAGA	GTCATGAATT	CGAGCTTCCA	GAAGGTAATT	ATCCAAGATG	TAGCATCAAG
3421	AATCCAATGT	TTACGGGAAA	AACTATGGAA	GTATTATGTG	AGCTCAGCAA	GAAGCAGATC
3481	AATATGCGGC	ACATATGCAA	CCTATGTTCA	AAAATGAAGA	ATGTACAGAT	ACAAGATCCT
3541	ATACTGCCAG	AATACGAAGA	AGAATACGTA	GAAATTGAAA	AAGAAGAACC	AGGCGAAGAA
3601	AAGAATCTTG	AAGACGTAAG	CACCTGACGAC	AACAATGAAA	AGAAGAAGAT	AAGGTCGGTG
3661	ATTGTGAAAG	AGACATAGAG	GACACATGTA	AGGTGGAAAA	TGTAAGGGCG	GAAAGTAACC
3721	TTATCACAAA	GGAATCTTAT	CCCCCACTAC	TTATCCTTTT	ATATTTTTC	GTGTCATTTT
3781	TGCCCTTGAG	TTTTCCTATA	TAAGGAACCA	AGTTCGGCAT	TTGTGAAAAC	AAGAAAAAAT
3841	TTGGTGTAAG	CTATTTTCTT	TGAAGTACTG	AGGATACAAC	TTCAGAGAAA	TTTGTAAAGT
3901	TGTGATCCAT	GGTGAGCAAG	GGCGAGGAGC	TGTTCAACCG	GGTGGTGCCC	ATCCTGGTCG
3961	AGCTGGACGG	CGACGTAAC	GGCCACAAGT	TCAGCGTGTC	CGGCGAGGGC	GAGGGCGATG
4021	CCACCTACGG	CAAGCTGACC	CTGAAGTTCA	TCTGCACCAC	CGGCAAGCTG	CCCGTGCCCT
4081	GGCCACCTCT	CGTGACCACC	TTACCTACG	GCGTGCAAGT	CTTCAGCCGC	TACCCCGACC
4141	ACATGAAGCA	GCACGACTTC	TTCAAGTCCG	CCATGCCCGA	AGGCTACGTC	CAGGAGCGCA
4201	CCATCTTCTT	CAAGGACGAC	GGCAACTACA	AGACCCGCGC	CGAGGTGAAG	TTCGAGGGCG
4261	ACACCTGGT	GAACCGCATC	GAGCTGAAGG	GCATCGACTT	CAAGGAGGAC	GGCAACATCC
4321	TGGGGCACAA	GCTGGAGTAC	AACTACAACA	GCCACAACGT	CTATATCATG	GCCGACAAGC
4381	AGAAGAACGG	CATCAAGGTG	AACTTCAAGA	TCCGCCACAA	CATCGAGGAC	GGCAGCGTGC
4441	AGCTCGCCGA	CCACTACCAG	CAGAACACCC	CCATCGGCGA	CGGCCCCGTG	CTGCTGCCCC
4501	ACAACCACTA	CCTGAGCACC	CAGTCCGCCC	TGAGCAAAGA	CCCCAACGAG	AAGCGCGATC
4561	ACATGGTCCT	GCTGGAGTTC	GTGACCGCCG	CCGGGATCAC	TCACGGCATG	GACGAGCTGT
4621	ACAAGTAAAG	CGGCCGCCCG	GCTGCAGATC	GTTCAAACAT	TTGGCAATAA	AGTTTCTTAA
4681	GATTGAATCC	TGTTGCCGGT	CTTGCGATGA	TTATCATATA	ATTTCTGTTG	AATTACGTTA
4741	AGCATGTAAT	AATTAACATG	TAATGCATGA	CGTTATTTAT	GAGATGGGTT	TTTATGATTA

Supplemental Figure S5. F-SHMT08cΔ+L135A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

4801	GAGTCCCAGCA	ATTATACATT	TAATACGCGA	TAGAAAACAA	AATATAGCGC	GCAAACCTAGG	8041	GCCTGCCCGG	CCTCCTCCTT	CAAATCGTAC	TCCGGCAGGT	CATTTGACCC	GATCAGCTTG
4861	ATAAATTATC	GCGCGCGGTG	TCATCTATGT	TACTAGATCT	GATGATAAGC	TGTCAAACAT	8101	CGCACGGTGA	AACAGAACTT	CTTGAACCTT	CCGGCGCTGT	CACCTGCGTT	GTAGATCGTC
4921	GAGAATTAAAT	TCGTAAATCAT	GTCATAGCTG	TTTCTCTGTG	GAAATTTGTTA	TCCGCTCACAA	8161	TTGGAACAACC	ATCTGGGCTT	TGCCTTGCCCT	GCGGCGAGCG	GTGGCAGGAA	GTAGAGAAAA
4981	ATTCCACACA	ACATACGAGC	CGGAAGCATA	AAGTGTAAG	CCTGGGGTGC	CTAATGAGTG	8221	CGGCCGATGC	CGGGATCGAT	CAAAAAGTAA	TCCGGGTGAA	CCGTCAGCAC	GTCCGGGTTC
5041	AGCTAACTCA	CATTAAATGTC	GTGCGCTCA	CTGCGCGCTG	TCCAGTCCGG	AAACCTGTGTC	8281	TTGCGCTTCT	TGATCTCCGG	GTACATCCAA	TACAGTAGCT	CGATCTCGAT	GTACTCCGGC
5101	TGCCAGCTGC	ATTAATAGTAC	GCGCCACGCA	GCGGCGGAG	CGGGTTTGGG	TATTGGCTAG	8341	GCGCGGGTGT	GCCTCTTCTT	GATTTGTGTG	CGGCTTAATCA	AGGCTTCCAC	CTCGGATACC
5161	AGCAATTCCG	CGTTAATTCA	GTACATTAATA	AACGTCGCGA	ATGTGTTTAT	AAGTTGTCTA	8401	GTCACCAAGC	GGCGCTTCTT	GGCCTTCTTC	GTACGCTGCA	TGGCAACGTG	CGTGGTGTTC
5221	AGCGTCAATT	TGTTTACACC	ACAATATATC	CTGCCACGAC	CCAGCCAAAC	GCTCCCCGAC	8461	AACCGAATGC	AGGTTTCTAC	CAGGTCGTCT	TTCTGCTTTC	CGCATCTGCG	TCCGCGGAGT
5281	CGGCAGCTCG	GCACAAAATC	ACCACTCGAT	ACAGGACGCG	CATCAGTCCG	GGACGGCGTC	8521	AACCTTAGTA	GCTCCGCAAC	GTGTGGACGG	AACACGCGGC	CGGGCTTGTG	TCCGCTCCCT
5341	AGCGGGAGAG	CCGTTGTAA	GCGGCAGACT	TTGCTCATGT	TACCGATGCT	ATTCCGGAAG	8581	TCCCGGTATC	GGTTCATGGA	TTCGGTTAGA	TGGGAAACCG	CCATCAGTAC	CAGGTCGTAA
5401	ACGGCAACTA	AGCTGCCGGG	TTTGAACAC	GGATGATCTC	GCGGAGGGTA	GCATGTTGAT	8641	TCCCAACAC	TGCCATGCC	GGCCGGCCCT	GCGGAAACCT	CTACGTCGCC	GTCTGGAAGT
5461	TGTAACGATG	ACAGAGCGTT	GCTGCCTGTG	ATCCAGATCA	TGAACAATAA	AACCTGTCTG	8701	TCGTAGCGGA	TACCTCGCC	AGCTCGTCGG	TCACGCTTCG	ACAGACGGAA	AACGCCACAG
5521	TTACATAAAC	AGTAATACAA	GGGGTGTTAT	GAGCCATATT	CAACGGGAAA	CGTCTTGCTC	8761	TCCATGATGC	TGCGACTATC	GCGGGTGCCC	ACGTCATAGA	GCATCGGAAC	GAAAAAATCT
5581	TAGCCCGCGA	TTAAATTCCA	ACATGGATGC	TGATTATAT	GGGTATAAAT	GGGCTCGCGA	8821	GGTTGCTCGT	CGCCCTTGCG	CGGCTTCCTA	ATCGACGCGC	CACCGCGTGC	CGGCGGTTGC
5641	TAAATGTCGG	CAATCAGGTG	CGACAATCTA	TCGATTGTAT	GGGAAGCCCG	ATGCGCCAGA	8881	CGGGATCTCT	TGCGGATTCG	ATCAGCGCGC	GCTTGCCACG	ATTCACCTGG	CGGTGCTTCT
5701	TTGTTTCTTG	AAACATGCGA	AGAGTAGCGT	TGCCAATGAT	TTTACAGATG	AGATGGTTCAG	8941	GCTTCGATGC	TTTGGCGCTG	GCGGCGCTGC	GCGGCGCTTCA	ACTTCTCCAC	CAGGTCATCA
5761	ACTAAACTGG	CTGACGGAAT	TTATGCTCTC	TCCGACCATC	AAGCATTTTA	TCCGTACTCC	9001	CCCAGCGCGC	CGCCGATTTG	TACCGGGCCG	GATGGTTTGC	GACCGTCACG	CCGATTCTCT
5821	TGATGATGCA	TGGTTACTCA	CCACTGCGAT	CCCCGGGAAA	ACAGCATTTCC	AGGTATTAGA	9061	GGGCTTGGGG	GTTCAGTGC	CATTGACAGG	CCGCGACAGC	ACCCAGCCGC	TTACGCTTGG
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5941	GCATTCGATT	CCTGTTTGTA	ATTGTCCTTT	TAACAGCGAT	CGCGTATTTC	GTCTCGCTCA	9181	ATTTTCCATG	CGCCCTCCTT	TAGCCGCTAA	AATTATCTA	CTCATTTTAT	CATTGCTCTA
6001	GGCGCAATCA	CGAATGAATA	ACGGTTTGGT	TGATGCGATG	GATTTTGTAT	ACGAGCGTAA	9241	TTTACTCTGG	TAGCTGCGCG	ATGTATTTCAG	ATAGCAGCTC	GGTAATGGTC	TTGCCCTTGG
6061	TGGCTGGCCT	GTTGAACAAG	TCTGGAAGAA	AATGCATAAA	ATTTTGGCAT	TCTCACCAGT	9301	GTACCGCGTA	CATCTTTCAG	TTGGTGTGAT	CCTCCGCCGG	CAACTGAAAG	TTGACCCGCT
6121	TTCACTGCTC	ACTGATCGTG	ATTTCTCACT	TGATAACCTT	CTTTTTCAGC	AGGGGAAAT	9361	TCATGCTGCG	CGTGTCTGCC	AGGCTGGCCA	ACGTTGACAG	CTTGCTGCTG	CGTGCCTGCG
6181	AATAGGTTGT	ATTGATGTTG	GACGAGTCGG	AATCGCAGAC	CGATACCAGG	ATCTTGCCAT	9421	GACGCGCCGG	ACTTAGCGTG	TTTGTGCTTT	TGCTCATTTT	CTCTTTTACC	CATTAATCTA
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6361	CTAAGAATTA	ATTCATGATC	CTGCATGACC	AAAATCCCTT	AACGTGAGTT	TTCGTTCCAC	9601	CGTGATACGC	GATCTCAAGAA	TGGGCGAGTC	GTACCCGCGC	AGCGCTCGTG	CAACTCCACC
6421	TGAGCGTCA	ACCCCGTAGA	AAAGATCAAA	GGATCTTCTT	GAGATCTCTT	TTTTCTGCGC	9661	GCCGATGCGC	GTGCTTTTGA	TCGCCCCGTA	CACGACAAAG	CGCGCTTGTA	GCCTTCCATC
6481	GTAATCTGCT	GCTTCAAAAC	AAAAAAACAA	CCGCTTACCAG	CGGTGGTTTG	TTTGCCGGAT	9721	CGTGACCTCA	ATGCGCTGCT	TAACCAAGTC	CACCAGGTCG	GCGGTGGCCC	ATATGTCGTA
6541	CAAGAGCTAC	CAACTCTTTT	TCCGAAGGTA	ACTGGCTTCA	GCAGAGCGCA	GATACCAAA	9781	AGGGCTTGGC	TGACACGGAA	TACGACGAA	GTCCGCTGCC	TTGATCGCGG	ACACAGCGAA
6601	ACTGCTCTTC	TAGTGATGCC	TAGTTAGGCG	CACCACTCTG	AGAACTCTGT	AGCAGCGCCT	9841	GTCCGCGGCT	TGGGCGGCTC	CGTGCATCAC	TACGAAGTGC	CGCCGCGCGA	TGGCTTCCAA
6661	ACATAGCTCG	CTCTGTAAAT	CCTGTTTACCA	GTGGCTGCTG	CCAGTGGCGA	TAAGTCTGTG	9901	GTCCGCGTCA	ATCGTCGGGC	GGTCGATGCC	GACAACGGTT	AGCGGTTGAT	CTTCCCGCAC
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6781	GGGGGTTCTG	GCACACAGCC	CAGCTTGAG	CGAAGCACT	ACACCGAACT	GAGATACCTA	10021	GCGGAGTTTG	AGGGCGCGGG	CTAGATGGGT	TGCGATGGTC	GTCTTGCCCTG	ACCCGCCCTT
6841	CAGCGTGAGC	TATGAGAAAG	CGCCACGCTT	CCCGAAGGGA	GAAAGGCGGA	CAGGTATCCG	10081	CTGGTTAAGT	ACAGCGATAA	CCTTCATGCG	TTCCCTTTGC	GTATTTGTTT	ATTTACTCAT
6901	GTAAGCGGCA	GGGTCCGAAC	AGGAGAGCGC	ACGAGGGAGC	TTCCAGGGGG	AAACGCCTGG	10141	CGCATCATAT	ACGCAAGCAG	CGCATGACGC	AAGCTGTTT	ACTCAAAATC	ACATCACCTT
6961	TATCTTTATA	GTCCTGTGCG	GTTTCGCCAC	CTCTGACTTG	AGCGTCGATT	TTTGTGATGC	10201	TTTAGACGGC	GGCGCTCGGT	TTCTTTCAGC	GCCAAAGCTG	CCCGCCAGGC	CGCCAGCTTG
7021	CTGTCAGGGG	GGCGGAGCCT	ATGAAAAAAC	GCCAGCAACG	CGGCTCTTTT	ACGGTTTCTG	10261	GCATCAGACA	AACCGGCGAG	GATTTTCATG	AGCCGACAGG	TTGAGACGTG	CGCGGCGGCG
7081	GCCTTTTGGT	GGCCTTTTGC	TTCATGTGTC	TTTCTGCGGT	TATCCCTGTA	TTCGTGTTGAT	10321	TCGAACACGT	ACCCGCGCGC	GATCATCTCC	GCCTCGATCT	CTTCGGTAA	GAAAAACGGT
7141	AACCGTATTA	CCGCCCTTGA	GTGAGCTGAT	ACCGCTCGCC	GCAGCCGAAC	GACCGAGCGC	10381	TCGTCCTGGC	CGTCTGTTGT	CGGTTTTCAT	CTTGTTCTCT	TTGCGCTTAT	TTCCTCGGGT
7201	AGCGAGCTAG	TGAGCGGAGA	AGCGGAAGAG	CGCCTGATGC	GGTATTTTCT	CCTTAGCAGT	10441	CCGCGAGGCG	GTCCGCGCTG	GTCAATGCGT	CCTACGGA	GGCAGCCGCG	CGCTGGCGCT
7261	CTGTGCGGTA	TTTACACCG	CATATGGTGC	ACTCTCAGTA	AAATCTGCTG	TGATGCCGCA	10501	CGGTGGGCGT	CACCTTCTCG	CTGCGCTCAA	GTGCGCGGTA	CAGGTCGAG	CGATGCACGC
7321	TAGTTAAGCC	AGTATACACT	CCGCTATCGC	TACGTGACTG	GGTCATGGCT	GCGCCCCGAC	10561	CAAGCAGTGC	AGCCGCTCTT	TTCACGGTGC	GGCCTTCTGT	GTGATCAGC	TCCGCGGCGT
7381	ACCCGCCAAC	ACCCGCTGAC	GCGCCCTGAC	GGGCTTGTCT	GCTCCCGGCA	TCCGCTTACA	10621	GCGCGCATCT	TGCGCGGGTG	AGGGTAGGGC	GGGGGCCAAA	CTTACGCTGT	CGGCGCTTGG
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7621	CGCATAGGCC	GACCGGAAGC	GGCGGGGCGT	AGGGAGCGCA	GCGACCGAAG	GGTAGGCGCT	10861	GGGTGCTGCG	GGCCAGGCGG	TCTAGCCTGG	TCATGTCTAC	AACGTCGCCA	GGGCGTAGGT
7681	TTTTTGCAGC	CTTCGGCTGT	GCGCTGGCCA	CACAGGCGAG	CATAGGCTTTA	TTTCTGTTGAT	10921	GGTCAAGCAT	CCTGGCCACG	TCCGGGCGGT	CGGCGCTGCT	GCCGGTGATC	TTCTCGGAAA
7741	AGAGTTTTAA	TAAAGTTTTAA	AGAGTTTTAG	GCGGAAAAAT	CGCCTTTTTT	CTCTTTTATA	10981	ACAGCTTTGT	GTCAGCGCGC	CGCGTGCAGT	GTGTTGTCAG	TCCTGGTCAAG	TCCTGGTCAAG
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7981	GAACCGGCGG	ATGCTTCCGC	CTCGATCAGG	TTGCGGTAGC	GCATGACTAG	GATCGGGCCA	11221	TTTCAAGAAG	CGGCTGCACT	GAACGTCAGA	AGCCGACTGC	ACTATAGCAG	CGGAGGGGTT
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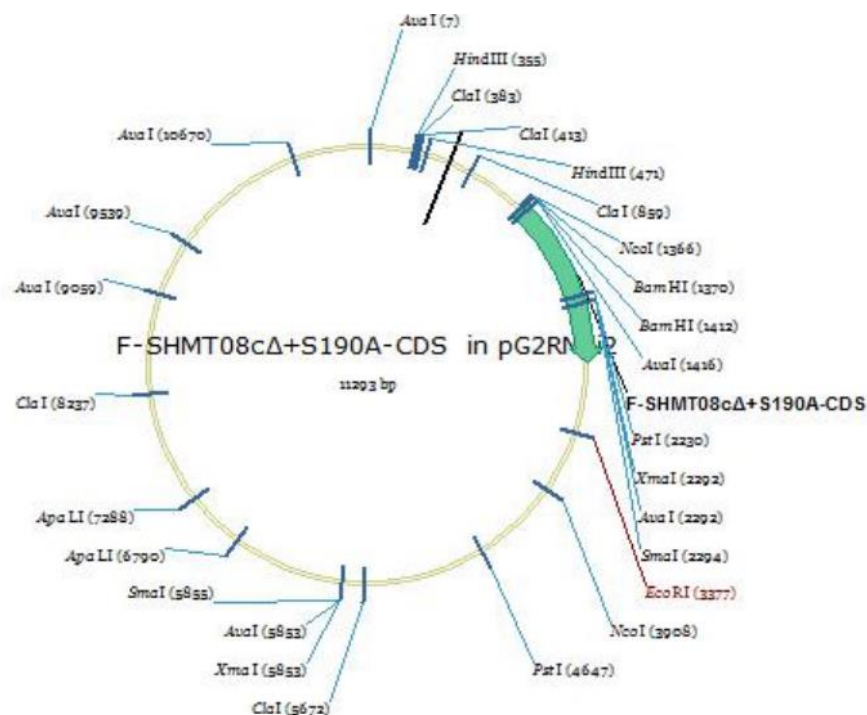
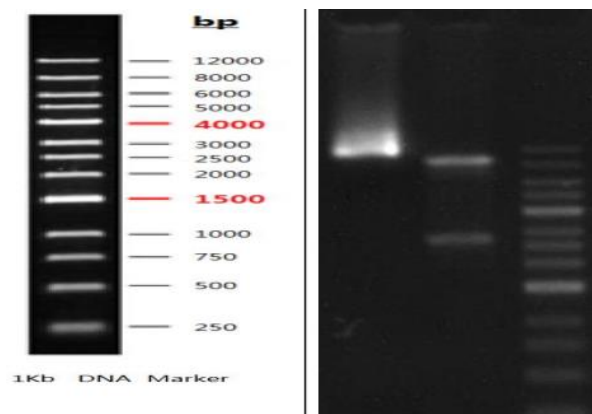
Supplemental Figure S5. F-SHMT08CΔ+L135A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Gene Name F-SHMT08cΔ+S190A-CDS

Cloning Vector pG2RNAi2

Length (bp) 1430

Cloning Sites Ascl-AvrII



Supplemental Figure S6. F-SHMT08cΔ+S190A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Detailed Sequence of the Whole Construct:

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1  TTGATCCCGA GGGGAACCCT GTGGTTGGCA TGCACATACA AATGGACGAA CGGATAAACC
61  TTTTCACGCC CTTTTAAATA TCCGTTATTC TAATAAACGC TCTTTTCTCT TAGGTTTACC
121 CGCCAATATA TCCTGTCAAA CACTGATAGT TTAAACTGAA GGCGGGAAAC GACAATCTGA
181 TCCAAGCTCA AGCTCATTCG CCATTCAGGC TGCGCAACTG TTGGGAAGGG CGATCGGTGC
241 GGGCCTCTTC GCTATTACGC CAGCTGGCGA AAGGGGGATG TGCTGCAAGG CGATTAAAGT
301 GGGTAACGCC AGGGTTTTCC CAGTCACGAC GTTGTA AAC GACGGCCAGT GCCAAGCTTA
361 TTACCCTGTT ATCCCTAGAT ATCGATTTTG GCTACCTTAA GGTAGCCAAA ATCGATCACT
421 AGTGCGGCCG CGGGCCCAAT ATAACAACGA CGTCGTAACA GATAAAGCGA AGCTTGAAGG
481 TGCATGTGAC TCCGTCAAGA TTACGAAACC GCCAACTACC ACGCAAATTG CAATTCTCAA
541 TTTCTTAGAA GGA CTCTCCG AAAATGCATC CAATACCAA TATTACCCGT GTCATAGGCA
601 CCAAGTGACA CCATACATGA ACACGCGTCA CAATATGACT GGAGAAGGGT TCCACACCTT
661 ATGCTATAAA ACGCCCCACA CCCCTCCTCC TTCCTTCGCA GTTCAATTCC AATATATTCC
721 ATTCTCTCTG TGTATTTCCC TACCTCTCCC TTCAAGGTTA GTCGATTTCT TCTGTTTTTC
781 TTCTTCGTTT TTTCCATGAA TTGTGTATGT TCTTTGATCA ATACGATGTT GATTTGATTG
841 TGTTTTGTTT GGTTCATCG ATCTTCAATT TTCATAATCA GATTCAGCTT TTATTATCTT
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961 TTCATGTCAG ATCCCTTTAC AACAAGCCTT AATTGTTGAT TCATTAATCG TAGATTAGGG
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1081 AATTACTTCA GATCCGTTAA ACAACAGCCT TATTTTTTAT ACTTCTGTGG TTTTTC AAGA
1141 AATTGTTTCA ATCCGTTGAC AAAAAGCCTT ATTCGTTGAT TCTATATCGT TTTTCGAGAG
1201 ATATTGCTCA GATCTGTTAG CAACTGCCTT GTTTGTTGAT TCTATTGCCG TGGATTAGGG
1261 TTTTTTTTCA CGAGATTGCT TCAGATCCGT ACTTAAGATT ACGTAATGGA TTTTGATTCT
1321 GATTTATCTG TGATTGTTGA CTCGACAGCG GCCGCACCGG CGCGCCATGG ATCCAGTAAG
1381 CGTGTGGGGT AACACGCCCT TGGCGACGGT GGATCCCGAG ATCCATGACC TCATCGAGAA
1441 GGAGAAGCGC CGTCAATGCC GCGGAATCGA GCTCATCGCC TCCGAGAACT TCACCTCCTT

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1501	CGCCGTCATC	GAGGCCCTCG	GCAGCGCTCT	CACGAACAAA	TACTCCGAGG	GCATGCCGGG
1561	CAACCGCTAC	TACGGCGGCA	ATGAATACAT	CGACCAGATC	GAAAACCTCT	GCCGCTCACG
1621	CGCCCTCCAA	GCCTTCCACC	TCGACGCCCA	ATCCTGGGGC	GTCAACGTCC	AGCCCTACTC
1681	CGGCTCCCCG	GCCAACTTCG	CCGCCTACAC	CGCCGTCTCT	AACCCCCACG	ACCGCATCAT
1741	GGGGCTAGAT	CTCCGCTCCG	GCGGCCACCT	CACCCACGGC	TACTACACCT	CCGGCGGAAA
1801	GAAGATCTCC	GCCACCTCCA	TTTACTTCGA	GAGTCTCCCT	TACAAGGTAA	ACTCCACCAC
1861	CGGCTACATC	GACTACGACC	GCTTGGAAGA	AAAAGCCCTA	GACTTCAGGC	CAAAACTCAT
1921	AATCTGCGGT	GGCGCTGCGT	ACCCTCGCGA	TTGGGACTAC	AAACGTTTCA	GGGAAGTCGC
1981	TGATAAGTGC	GGAGCATTGC	TTCTCTGCGA	CATGGCGCAC	ACTAGCGGCC	TTGTGGCCGC
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2101	CTTGCGGGGC	CCACGTGCGG	GGATGATCTT	TTACCGGAAG	GGCCCCAAGC	CGCCGAAGAA
2161	GGGGCAGCCG	GAGAACGCGG	TTTATGATTT	CGAGGACAAG	ATTAACCTTC	CGGTGTTCCC
2221	TTGCTGCAG	GGTGGGCCCC	ACAACCACCA	GATCGGTGCT	CTCGCCGTGG	CGCTGAAGCA
2281	GGCCGCGTCG	CCCGGGTTTA	AGGCCTACGC	GAAGCAGGTT	AAGGCGAACG	CCGTTGCGCT
2341	TGGAATAATAC	TTGATGGGGA	AAGGGTACAG	CCTTGCTACT	GGCGGAACGG	AGAACCATCT
2401	TGTTTTGTGG	GATCTGAGAC	CTCTTGGATT	GACTGGGTAT	AAGGTGGAGA	AACTCTGTGA
2461	TCTCTGTAAC	ATTACTGTTA	ACAAGAACGC	TGTTTTTGGT	GATAGCAGTG	CCTTGGCCCC
2521	TGGTGGAGTG	CGAATTGGTG	CCCTTGCCAT	GACTTCTAGG	GGTTTGGTTG	AAAAAGACTT
2581	TGAGCAGATT	GGTGAGTTCC	TTCAACGTGC	TGTGACTCTC	ACACTGGAGA	TCCAGAAGGA
2641	GCATGGCAAA	CTTCTCAAGG	ATTTCAACAA	GGGTCTCGTC	AACAACAAGG	CTATTGAAGA
2701	TCTCAAAGCT	GATGTTGAGA	AGTTCTCTGC	CTTGTTTGAC	ATGCCTGGCT	TCCTGGTATC
2761	TGAAATGAAG	TACAAGGATT	AGCCTAGGTT	CGAGTATTAT	GGCATTGGGA	AAACTGTTTT
2821	TCTTGTAACCA	TTTGTGTGTC	TTGTAATTTA	CTGTGTTTTT	TATTTCGGTT	TCGCTATCGA
2881	ACTGTGAAAT	GGAAATGGAT	GGAGAAGAGT	TAATGAATGA	TATGGTCCTT	TTGTTTATTTC
2941	TCAAATTAAT	ATTATTTGTT	TTTTCTCTTA	TTTGTGTGTG	GTGAAATTTG	AAATTATAAG
3001	AGATATGCAA	ACATTTTGTG	TTGAGTAAAA	ATGTGTCAAA	TCGTGGCCTC	TAATGACCGA
3061	AGTTAATATG	AGGAGTAAAA	CACTTGTAGT	TGTACCATTA	TGCTTATTCA	CTAGGCAACA
3121	AATATATTTT	CAGACCTAGA	AAAGCTGCAA	ATGTTACTGA	ATACAAGTAT	GTCCTCTTGT
3181	GTTTTAGACA	TTTATGAAC	TTCTTTTATG	TAATTTTCCA	GAATCCTTGT	CAGATTCTAA
3241	TCATTGCTTT	ATAATTATAG	TTATACTCAT	GGATTTGTAG	TTGAGTATGA	AAATATTTTT
3301	TAATGCATTT	TATGACTTGC	CAATTGATTG	ACAACATGCA	TCAATCCGCG	GTTATGACTC
3361	TCTTAAGAGA	GTCATGAATT	CGAGCTTCCA	GAAGGTAATT	ATCCAAGATG	TAGCATCAAG
3421	AATCCAATGT	TTACGGGAAA	AACTATGGAA	GTATTATGTG	AGCTCAGCAA	GAAGCAGATC
3481	AATATGCGGC	ACATATGCAA	CCTATGTTCA	AAAATGAAGA	ATGTACAGAT	ACAAGATCCT
3541	ATACTGCCAG	AATACGAAGA	AGAATACGTA	GAAATTGAAA	AAGAAGAACC	AGGCGAAGAA
3601	AAGAACTCTT	AAGACGTAAG	CACTGACGAC	AACAATGAAA	AGAAGAAGAT	AAGGTCGGTG
3661	ATTGTGAAAG	AGACATAGAG	GACACATGTA	AGGTGGAAGA	TGTAAGGGCG	GAAAGTAACC
3721	TTATCACAAA	GGAATCTTAT	CCCCACTAC	TTATCCTTTT	ATATTTTTC	GTGTCATTTT
3781	TGCCCTTGAG	TTTTCTTATA	TAAGGAACCA	AGTTCGGCAT	TTGTGAAAAC	AAGAAAAAAT
3841	TTGGTGTAAG	CTATTTTCTT	TGAAGTACTG	AGGATACAAC	TTCAGAGAAA	TTTGTAAGTT
3901	TGTGATCCAT	GGTGAGCAAG	GGCGAGGAGC	TGTTACCGG	GGTGGTGCCC	ATCCTGGTCG
3961	AGCTGGACGG	CGACGTAAC	GGCCACAAGT	TCAGCGTGTC	CGGCGAGGGC	GAGGGCGATG
4021	CCACCTACGG	CAAGCTGACC	CTGAAGTTCA	TCTGCACCAC	CGGCAAGCTG	CCCGTGCCCT
4081	GGCCACCCCT	CGTGACCACC	TTCACTTACG	GCGTGACGTG	CTTCAGCCGC	TACCCCGACC
4141	ACATGAAGCA	GCACGACTTC	TTCAAGTCCG	CCATGCCCGA	AGGCTACGTC	CAGGAGCGCA
4201	CCATCTTCTT	CAAGGACGAC	GGCAACTACA	AGACCCGCGC	CGAGGTGAAG	TTCGAGGGCG
4261	ACACCCTGGT	GAACCGCATC	GAGCTGAAGG	GCATCGACTT	CAAGGAGGAC	GGCAACATCC
4321	TGGGGCACAA	GCTGGAGTAC	AACTACAACA	GCCACAACGT	CTATATCATG	GCCGACAAGC
4381	AGAAGAACGG	CATCAAGGTG	AACTTCAAGA	TCCGCCACAA	CATCGAGGAC	GGCAGCGTGC
4441	AGCTCGCCGA	CCACTACCAG	CAGAACACCC	CCATCGGCGA	CGGCCCGGTG	CTGCTGCCCG
4501	ACAACCACCTA	CCTGAGCACC	CAGTCCGCCC	TGAGCAAAGA	CCCCAACGAG	AAGCGCGATC
4561	ACATGGTCCT	GCTGGAGTTC	GTGACCGCCG	CCGGGATCAC	TCACGGCATG	GACGAGCTGT
4621	ACAAGTAAAG	CGGCCGCCCC	GCTGCAGATC	GTTCAAACAT	TTGGCAATAA	AGTTTCTTAA
4681	GATTGAATCC	TGTTGCCGGT	CTTGCGATGA	TTATCATATA	ATTTCTGTTG	AATTACGTTA

Supplemental Figure S6. F-SHMT08cΔ+S190A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

4801	GAGTCCCAGCA	ATTATACATT	TAATACGCGA	TAGAAAACAA	AATATAGCGC	GCAAACCTAGG	8041	GCCTGCCCGG	CCTCCTCCTT	CAAATCGTAC	TCCGGCAGGT	CATTTGACCC	GATCAGCTTG
4861	ATAAATTATC	GCGCGCGGTG	TCATCTATGT	TACTAGATCT	GATGATAAGC	TGTCAAACAT	8101	CGCACGGTGA	AACAGAACTT	CTTGAACCTT	CCGGCGCTGT	CAGTCCGGTT	GTAGATCGTC
4921	GAGAATTAAAT	TCGTAATCAT	GTCATAGCTG	TTTCTCTGTG	GAAATTTGTTA	TCCGCTCACAA	8161	TTGAAACAAC	ATCTGGCTTC	TGCCTTGCCCT	GCGGCGCGGC	GTGGCAGGCG	GTAGAGAAAA
4981	ATTCCACACA	ACATACGAGC	CGGAAGCATA	AAGTGTAAG	CCTGGGGTGC	CTAATGAGTG	8221	CGGCCGATGC	CGGGATCGAT	CAAAAAGTAA	TCCGGGTGAA	CCGTCAGCAC	GTCCGGGTTC
5041	AGCTAACTCA	CATTAAATGT	CTGTGCCTCA	CTGCGCGCTG	TCCAGTCCGG	AAACCTGTGCG	8281	TTGCGCTCTG	TGATCTCCGG	GTACATCCAA	TACAGTACGT	CGATCTCGAT	GTACTCCGGC
5101	TGCCAGCTGC	ATTAATAGTC	GCGCCACGCG	GCGGCGGAGT	CGGGTTTGGG	TATTGGCTAG	8341	GCGCGGGTGT	GCCTCTTCTT	GATCTTGATG	CGGCTTAATCA	AGGCTTCCAC	CTCGGATACC
5161	AGCAATTCCG	CGTTAATTCA	GTACATTAATA	AACGTCGCGA	ATGTGTTATT	AAGTTGTCTA	8401	GTCACCAAGC	GGCCGTTCTT	GGCCTTCTTC	GTACGCTGCA	TGGCAACGTG	CGTGGTGTTC
5221	AGCGTCAATT	TGTTTACACC	ACAATATATC	CTGCCACCAG	CCAGCCAAAC	GCTCCCCGAC	8461	AACCGAATGC	AGGTTTCTAC	CAGGTCGTCT	TTCTGCTTTC	CGCCATCGGC	TCCGCGGAGT
5281	CGGCAGCTCG	GCACAAAATC	ACCACTCGAT	ACAGGCGACC	CATCAGTCCG	GGACGGCGTC	8521	AACCTTAGTA	GCTCCGCAAC	GTGTGGACGG	AACACGCGGC	CGGGCTTGTC	TCCGCTCCCT
5341	AGCGGGAGAG	CCGTTGTAA	GCGGCAGACT	TTGCTCATGT	TACCGATGCT	ATTCCGGAAG	8581	TCCCGGTATC	GGTTCATGGA	TTCGGTTAGA	TGGGAAACCG	CCATCAGTAC	CAGGTCGTAA
5401	ACGGCAACTA	AGCTGCCGGG	TTTGAACAC	GGATGATCTC	GCGGAGGGTA	GCATGTTGAT	8641	TCCCAACAC	TGCCCATGCC	GGCCGGCCCT	GCGGAAACCT	CTACGTCGCC	GTCTGGAAGC
5461	TGTAACGATG	ACAGAGCGTT	GCTGCCTGTG	ATCCAGATCA	TGAACAATAA	AACGTGCTCG	8701	TCGTAGCGGA	TACCTCTGCC	AGCTCGTCGG	TCACGCTTCG	ACAGACGGAA	AACGCCACAG
5521	TTACATAAAC	AGTAATACAA	GGGGTGTTAT	GAGCCATATT	CAACGGGAAA	CGTCTTGCTC	8761	TCCATGATGC	TGCGACTATC	GCGGGTGCCC	ACGTCATAGA	GCATCGGAAC	GAAAAAATCT
5581	TAGCCCGCGA	TTAAATTCCA	ACATGGATGC	TGATTATAT	GGGTATAAAT	GGGCTCGCGA	8821	GGTTGCTCGT	CGCCCTTGCG	CGGCTTCCTA	ATCGACGCGC	CACCGGCTGC	CGGCGGTTGC
5641	TAAATGTCGG	CAATCAGGTG	CGACAATCTA	TCGATTGTAT	GGGAAGCCCG	ATGCGCCAGA	8881	CGGGATCTCT	TGCGGATTCG	ATCAGCGCGC	GCTTGCCACG	ATTCACCTGG	CGGTGCTTCT
5701	GTGTTTCTTG	AAACATGGCA	AGAGTACGCT	TGCCAATGAT	TTTACAGATG	AGATGGTTCAG	8941	GCTCTGATGC	TTGTCGCTGT	GCGGCGCTGC	GCGGCGCTTCA	ACTTCTCCAC	CAGGTCATCA
5761	ACTAAACTGG	CTGACGGAAT	TTATGCTCTC	TCCGACCATC	AAGCATTTTA	TCCGTACTCC	9001	CCCAGCGCGC	CGCCGATTTG	TACCGGGCCG	GATGGTTTGC	GACCGTCACG	CCGATTCTCT
5821	TGATGATGCA	TGGTTACTCA	CCACTGCGAT	CCCCGGGAAA	ACAGCATTTCC	AGGTATTAGA	9061	GGGCTTGGGG	GTTCAGATGC	CATTGACAGG	CCGCGACAG	ACCCAGCCGC	TTACGCTTGG
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5941	GCATTCGATT	CCTGTTTGTA	ATTGTCCTTT	TAACAGCGAT	CGCGTATTTT	GTCTCGCTCA	9181	ATTTTCCATG	CGCCCTCCTT	TAGCCGCTAA	AATTATCTA	CTCATTTTAT	CATTGCTCTA
6001	GGCGCAATCA	CGAATGAATA	ACGGTTTGGT	TGATGCGATG	GATTTTGTAT	ACGAGCGTAA	9241	TTTACTCTGG	TAGCTGCGCG	ATGTATTAG	ATAGCAGCTC	GGTAATGGTC	TTGCCCTTGG
6061	TGGCTGGCCT	GTTGAACAAG	TCTGGAAGAA	AATGCATAAA	CTTTTGCCAT	TCTCACCCTG	9301	GTACCGCGTA	CATCTTTCAG	TTGGTGTGAT	CCTCCGCGCG	CAACTGAAAG	TTGACCCGCT
6121	TTACAGTCGT	ACTCATGGTG	ATTTCTCACT	TGATAACCTT	ATTTTTCAGC	AGGGGAAATG	9361	TCATGCTGCG	CGTGTCTGCC	AGGCTGGCCA	ACGTTGACAG	CTTGCTGCTG	CGTGCCTGCG
6181	AATAGGTTGT	ATTGATGTTG	GACGAGTCGG	AATCGCAGAC	CGATACCAGG	ATCTTGCCAT	9421	GACGCGCGCG	ACTTAGCGTG	TTTGTGCTTT	TGCTCATTTT	CTCTTTTACC	CATTAATCTA
6241	CCTATGGAAC	TGCCTCGGTG	AGTTTTCTCC	TTCATTACAG	AAACGGCTTT	TTCAAAAAAT	9481	AATGAGTTT	GATTTAATTT	CAGCGGCCAG	CGCCTTGCAT	TCGCGGGCAG	CGTCCGCTCA
6301	TGGTATTGAT	TATCTGATA	TGAATAAAT	GCAGTTTCTG	TTGATGCTCG	ATGAGTTTTT	9541	GGGTTCTGAT	TCAAGAACGG	TTGTGCCGCG	GGCGGCGATG	CCTGGGTAGC	TCACGCGCTG
6361	CTAAGAATTA	ATTCATGATC	CTGCATGACC	AAAATCCCTT	AACGTGAGTT	TTCGTTCCAC	9601	CGTGATACGC	GACCTCAAGAA	TGGGCGAGTC	GTACCCGCGC	AGCGCCTCGG	CAACTCACC
6421	TGAGCGTACG	ACCCCGTAGA	AAAGATCAAA	GGATCTTCTT	GAGATCTCTT	TTTTCTGCGC	9661	GCCGATGCGC	GTGCTTTTGA	TCGCCCCGTA	CACGACAAAG	CGCGCTTGTA	GCCTTCCATC
6481	GTAATCTGCT	GCTTCAAAAC	AAAAAAACAA	CCGCTTACCAG	CGGTGGTTTG	TTTGCCGGAT	9721	CGTGACCTCA	ATGCGCTGCT	TAACCAGCTC	CACCAGGTCG	GCGGTGGCCC	ATATGTCGTA
6541	CAAGAGCTAC	CAACTCTTTT	TCCGAAGGTA	ACTGGCTTCA	GCAGAGCGCA	GATACCAAA	9781	AGGGCTTGGC	TGACACGGAA	TACGACGAA	GTCCGCTGCC	TTGATCGCGG	ACACAGCCAA
6601	ACTGCTCTTC	TAGTGATGCC	TAGTTAGGCG	CACCACTCTG	AGAACTCTGT	AGCAGCGCCT	9841	GTCCGCGCCT	TGGGCGCTCT	CGTGCATCAC	TACGAAGTGC	CGCGGCCGCA	TGGCTTCCAC
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6721	CTTACCGGGT	TGGACTCAAG	ACGATAGTTA	CCGGATAAGG	CGCAGCGGTC	GGGCTGAACG	9961	GGCCGCCCAA	TCGCGGGGAC	TGCCCTGGGG	ATCGGAATCG	ACTAACAGAA	CATCGGCCCT
6781	GGGGGTTCTG	GCACACAGCC	CAGCTTGAG	CGAACGACCT	ACACCGAACT	GAGATACCTA	10021	GCGGAGTTGC	AGGGCGCGGG	CTAGATGGGT	TGCGATGGTC	GTCTTGCCCTG	ACCCGCCCTT
6841	CAGCGTGAGC	TATGAGAAAG	CGCCACGCTT	CCCGAAGGGA	GAAAGGCGGA	CAGGTATCCG	10081	CTGGTTAAGT	ACAGCGATAA	CCTTCATGCG	TTCCCTTTGC	GTATTTGTTT	ATTTACTCAT
6901	GTAAGCGGCA	GGGTCCGAAC	AGGAGAGCGC	ACGAGGGAGC	TTCCAGGGGG	AAACGCTGGG	10141	CGCATCATAT	ACGCGAGCAG	CGCATGACGC	AAGCTGTTT	ACTCAAAATC	ACATCACCTT
6961	TATCTTTATA	GTCCTGTGCG	GTTTCGCCAC	CTCTGACTTG	AGCGTTCGAT	TTTGTGATGC	10201	TTTAGACGGC	GGCGCTCGGT	TTCTTCAGCG	GCCAAGTTCG	CCCGCCAGGC	CGCCAGCTTG
7021	CTGTCAGGGG	GGCGGAGCCT	ATGAAAAAAC	GCCAGCAACG	CGGCCCTTTT	ACGGTTTCTG	10261	GCATCAGACA	AACCGGCGAG	GATTTTCATG	AGCCGACAGG	TTGAGACGTG	CGCGGCGGCG
7081	GCCTTTTGGT	GGCCTTTTGC	TTCATGTGTC	TTTCTGCGGT	TATCCCTGTA	TTCTGTGGAT	10321	TCGAACACGT	ACCCGCGCGC	GATCATCTCC	GCCTCGATCT	CTTCGGTAA	GAAAAACGGT
7141	AACCGTATTA	CCGCCCTTGA	GTGAGCTGAT	ACCGCTCGCC	GCAGCCGAAC	GACCGAGCGC	10381	TCGTCCTGGC	CGTCTCTGGT	CGGTTTTCAT	CTTGTTCTCT	TTGGCGTTTA	TTCCTCGGGT
7201	AGCGAGCTCAG	TGAGCGGAGA	AGCGGAAGAG	CGCCTGATGC	GGTATTTTCT	CCTTAGCAGT	10441	CCGCGAGGCG	GTCCGCGCTG	GTCAATGCGT	CCTGACGGAA	GGACCGCGCG	CGCTGGGCTC
7261	CTGTGCGGTG	TTTCAACCGC	CATATGGTGC	ACTCTCAGTA	AAATCTGCTG	TGATGCCGCA	10501	CGGTGGGCGT	CACCTTCTCG	CTGCGCTCAA	GTGCGCGGTA	CAGGTCGAG	CGATGCACGC
7321	TAGTTAAGCC	AGTATACACT	CCGCTATCGC	TACGTGACTG	GGTCATGGCT	GCGCCCCGAC	10561	CAAGCAGTGC	AGCCGCTCTT	TTACCGGTGC	GGCCTTCTGT	GTGATCAGC	TCCGCGGCGT
7381	ACCCGCAAC	ACCCGCTGAC	GCGCCCTGAC	GGGCTTGTCT	GCTCCCGGCA	TCCGCTTACA	10621	GCGCGATCTG	TGCGCGGGTG	AGGGTAGGGC	GGGGGCCAAA	CTTACGCTGT	CGGCGCTTGG
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7561	TGTCGCGGCC	CTGTGATATT	GCCTGGCCGT	AGGCCAGCCA	TTTTTGAGCG	GCCAGCGGCC	10801	CCAGGCTACG	CAGCCGCGCG	CGCGCTCTCT	CGGCGTGTG	GGCAATGTTC	AGTAGGTCGC
7621	GCGTATAGCC	GACCGCAAGC	GGCGGGGCGT	AGGGAGCGCA	GCGACCGAAG	GGTAGGCGCT	10861	GGGTGCTGCG	GGCCAGGCGG	TCTAGCCTGG	TCATGTCTAC	AACGTCGCCA	GGGCGTAGGT
7681	TTTTTGCAGC	CTCCGCTGTG	GCGCTGGCCA	CACAGGCGAG	CGAGGCGTTT	TTTCTGGGAT	10921	GGTCAAGCAT	CCTGGCCACG	TCCGGGCGGT	CGCGCTGTGT	GCCGGTGATC	TTCTCGGAAA
7741	AGAGTTTTAA	TAAAGTTTTAA	AGAGTTTTAG	GCGGAAAAAT	CGCCTTTTTT	CTCTTTTATA	10981	ACAGCTTTGT	GACGCGCGCG	CGGTGCAAGT	GCGGCGGTG	GTGTTGTCAG	CTTGGTCTG
7801	TCAGTCACTT	ACATGTGTGA	CCGGTTCCCA	ATGTACCGGT	TTGGGTTCCC	AATGTACGGG	11041	CGGTGCTGAC	GCGGGCATAG	CCCAGCAGGC	CAGCGGCGGC	GCTCTGTTC	ATGGCGTAAT
7861	TTCCGGTTTC	CAATGTACGG	CTTTGGGTTT	CCAATGTACG	TGATATCCAC	AGGAAAGGAT	11101	GTCTCCGGTT	TAGTGCAGAA	GTATTCTACT	TTATGCGACT	AAAAACACGC	ACAAGAAAA
7921	CCTTTTTCGAC	CTTTTTCGCC	TGCTAGGGCA	ATTTGCCCTA	GCATCTGCTC	CGTACATTAG	11161	GCCAGGAAAA	GCGAGGCGGC	GCGAGCTGTG	CGCTAAGTTA	GGACTTGTGC	GACATGTCGT
7981	GAACCGGCGG	ATGCTTCGCC	CTCGATCAGG	TTGCGGTAGC	GCATGACTAG	GATCGGGCCA	11221	TTTCAGAAGA	CGGCTGCACT	GAACGTCAGA	AGCCGACTGC	ACTATAGCAG	CGGAGGGGTT
							11281	GGATCAAAAGT	ACT				

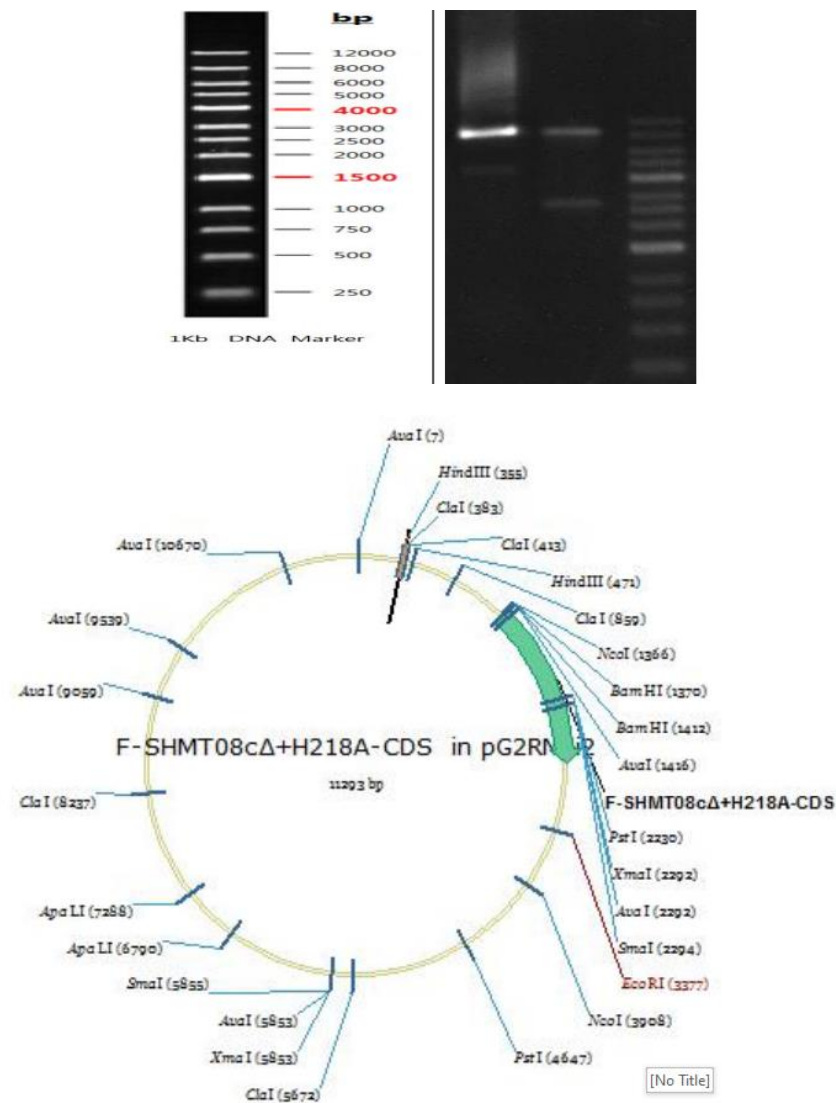
Supplemental Figure S6. F-SHMT08cΔ+S190A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Gene Name F-SHMT08cΔ+H218A-CDS

Cloning Vector pG2RNAi2

Length (bp) 1430

Cloning Sites Ascl-AvrII



Supplemental Figure S7. F-SHMT08cΔ+H218A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Detailed Sequence of the Whole Construct:

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1  TTGATCCCGA GGGGAACCCCT GTGGTTGGCA TGCACATACA AATGGACGAA CGGATAAACC
61  TTTTCACGCC CTTTAAATA TCCGTTATTC TAATAAACGC TCTTTTCTCT TAGGTTTACC
121 CGCCAATATA TCCTGTCAAA CACTGATAGT TTAAACTGAA GGCGGGAAAC GACAATCTGA
181 TCCAAGCTCA AGCTCATTCG CCATTCAGGC TGCGCAACTG TTGGGAAGGG CGATCGGTGC
241 GGGCCTCTTC GCTATTACGC CAGCTGGCGA AAGGGGGATG TGCTGCAAGG CGATTAAGTT
301 GGGTAACGCC AGGGTTTTCC CAGTCACGAC GTTGTA AAC GACGGCCAGT GCCAAGCTTA
361 TTACCCTGTT ATCCCTAGAT ATCGATTTTG GCTACCTTAA GG TAGCCAAA ATCGATCACT
421 AGTGC GGCCG CGGGCCCAAT ATAACAACGA CGTCGTAACA GATAAAGCGA AGCTTGAAGG
481 TGCATGTGAC TCCGTCAAGA TTACGAAACC GCCAACTACC ACGCAAATTG CAATTCTCAA
541 TTTCTAGAA GGACTCTCCG AAAATGCATC CAATACCAA TATTACCCGT GTCATAGGCA
601 CCAAGTGACA CCATACATGA ACACGCGTCA CAATATGACT GGAGAAGGGT TCCACACCTT
661 ATGCTATAAA ACGCCCCACA CCCCTCCTCC TTCCTTCGCA GTTCAATTCC AATATATTCC
721 ATTCTCTCTG TGTATTTCCC TACCTCTCCC TTCAAGGTTA GTCGATTCT TCTGTTTTTC
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841 TGTTTTGTTT GGTTTCATCG ATCTTCAATT TTCATAATCA GATTCAGCTT TTATTATCTT
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961 TTCATGTCAG ATCCCTTTAC AACAAGCCTT AATTGTTGAT TCATTAATCG TAGATTAGGG
1021 CTTTTTTCAT TGATTACTTC AGATCCGTTA AACGTAACCA TAGATCAGGG CTTTTTCATG
1081 AATTACTTCA GATCCGTTAA ACAACAGCCT TATTTTTTAT ACTTCTGTGG TTTTCAAGA
1141 AATTGTTTCA ATCCGTTGAC AAAAAGCCTT ATTCGTTGAT TCTATATCGT TTTTCGAGAG
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1261 TTTTTTTTCA CGAGATTGCT TCAGATCCGT ACTTAAGATT ACGTAATGGA TTTTGATTCT
1321 GATTTATCTG TGATTGTTGA CTCGACAGCG GCCGCACCGG CGCGCCATGG ATCCAGTAAG
1381 CGTGTGGGGT AACACGCCCT TGGCGACGGT GGATCCCGAG ATCCATGACC TCATCGAGAA
1441 GGAGAAGCGC CGTCAATGCC GCGGAATCGA GTCATCGCC TCCGAGAACT TCACCTCCTT

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1501	CGCCGTCATC	GAGGCCCTCG	GCAGCGCTCT	CACGAACAAA	TACTCCGAGG	GCATGCCGGG
1561	CAACCGCTAC	TACGGCGGCA	ATGAATACAT	CGACCAGATC	GAAAACCTCT	GCCGCTCACG
1621	CGCCCTCCAA	GCCTTCCACC	TCGACGCCCA	ATCCTGGGGC	GTCAACGTCC	AGCCCTACTC
1681	CGGCTCCTCC	GCCAACTTCG	CCGCCTACAC	CGCCGTCCTC	AACCCCCACG	ACCGCATCAT
1741	GGGGCTAGAT	CTCCGCTCCG	GCGGCCACCT	CACCCACGGC	TACTACACCT	CCGGCGGAAA
1801	GAAGATCTCC	GCCACCTCCA	TTTACTTCGA	GAGTCTCCCT	TACAAGGTAA	ACTCCACCAC
1861	CGGCTACATC	GACTACGACC	GCTTGGAAGA	AAAAGCCCTA	GACTTCAGGC	CAAAACTCAT
1921	AATCTGCGGT	GGCAGCGCGT	ACCCTCGCGA	TTGGGACTAC	AAACGTTTCA	GGGAAGTCGC
1981	TGATAAGTGC	GGAGCATTGC	TTCTCTGCGA	CATGGCGGCT	ACTAGCGGCC	TTGTGGCCGC
2041	GCAGGAAGTG	AACAGCCCCC	TCGAGTATTG	CGACATTGTG	ACCACCACGA	CTCACAAAGAG
2101	CTTGCGGGGC	CCACGTGCGG	GGATGATCTT	TTACCGGAAG	GGCCCCAAGC	CGCCGAAGAA
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2221	TTGCTGTCAG	GGTGGGCCCC	ACAACCACCA	GATCGGTGCT	CTCGCCGTGG	CGCTGAAGCA
2281	GGCCGCGTCG	CCCGGGTTTA	AGGCCTACGC	GAAGCAGGTT	AAGCGGAACG	CCGTTGCGCT
2341	TGAAAATAC	TTGATGGGGA	AAGGGTACAG	CCTTGTCACT	GGCGGAACGG	AGAACCATCT
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2461	TCTCTGTAAC	ATTACTGTTA	ACAAGAACGC	TGTTTTTGGT	GATAGCAGTG	CCTTGGCCCC
2521	TGGTGGAGTG	CGAATTGGTG	CCCCTGCCAT	GACTTCTAGG	GGTTTGGTTG	AAAAAGACTT
2581	TGAGCAGATT	GGTGAGTTCC	TTCAACCGTG	TGTGACTCTC	ACACTGGAGA	TCCAGAAGGA
2641	GCATGGCAAA	CTTCTCAAGG	ATTTCACAA	GGGTCTCGTC	AACAACAAGG	CTATTGAAGA
2701	TCTCAAAGCT	GATGTTGAGA	AGTTCTCTGC	CTTGTTTGAC	ATGCCTGGCT	TCCTGGTATC
2761	TGAAATGAAG	TACAAGGATT	AGCCTAGGTT	CGAGTATTAT	GGCATTGGGA	AAACTGTTTT
2821	TCTTGTACCA	TTTGTGTGTC	TTGTAATTTA	CTGTGTTTTT	TATTCGGTTT	TCGCTATCGA
2881	ACTGTGAAAT	GGAAATGGAT	GGAGAAGAGT	TAATGAATGA	TATGGTCCTT	TTGTTTCATT
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3001	AGATATGCAA	ACATTTTGTT	TTGAGTAAAA	ATGTGTCAAA	TCGTGGCCTC	TAATGACCGA
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3121	AATATATTTT	CAGACCTAGA	AAAGCTGCAA	ATGTTACTGA	ATACAAGTAT	GTCCTCTTGT
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3241	TCATTGCTTT	ATAATTATAG	TTATACTCAT	GGATTGTGAG	TTGAGTATGA	AAATATTTTT
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3361	TCTTAAGAGA	GTCATGAATT	CGAGCTTCCA	GAAGGTAATT	ATCCAAGATG	TAGCATCAAG
3421	AATCCAATGT	TTACGGGAAA	AACTATGGAA	GTATTATGTG	AGCTCAGCAA	GAAGCAGATC
3481	AATATGCGGC	ACATATGCAA	CCTATGTTCA	AAAATGAAGA	ATGTACAGAT	ACAAGATCCT
3541	ATACTGCCAG	AATACGAAGA	AGAATACGTA	GAAATTGAAA	AAGAAGAACC	AGGCGAAGAA
3601	AAGAATCTTG	AAGACGTAAG	CACCTGACGAC	AACAATGAAA	AGAAGAAGAT	AAGTTCGGTG
3661	ATTGTGAAAG	AGACATAGAG	GACACATGTA	AGGTGGAAAA	TGTAAGGGCG	GAAAGTAACC
3721	TTATCACAAA	GGAATCTTAT	CCCCCACTAC	TTATCCTTTT	ATATTTTTTCC	GTGTCATTTT
3781	TGCCCTTGAG	TTTTCTCTATA	TAAGGAACCA	AGTTCGGCAT	TTGTGAAAAA	AAGAAAAAAT
3841	TTGGGTGTAAG	CTATTTTCTT	TGAAGTACTG	AGGATACAAC	TTCAGAGAAA	TTTGTAAGTT
3901	TGTGATCCAT	GGTGAGCAAG	GGCGAGGAGC	TGTTCAACCG	GGTGGTGCCC	ATCCTGGTCG
3961	AGCTGGACGG	CGACGTAAAC	GGCCACAAGT	TCAGCGTGTC	CGGCGAGGGC	GAGGGCGATG
4021	CCACCTACGG	CAAGCTGACC	CTGAAGTTCA	TCTGCACCAC	CGGCAAGCTG	CCCGTGCCCT
4081	GGCCCCACCCT	CGTGACCACC	TTCACTTACG	GCGTGACAGT	CTTCAGCCGC	TACCCCGACC
4141	ACATGAAGCA	GCACGACTTC	TTCAAGTCCG	CCATGCCCGA	AGGCTACGTC	CAGGAGCGCA
4201	CCATCTTCTT	CAAGGACGAC	GGCAACTACA	AGACCCGCGC	CGAGGTGAAG	TTCGAGGGCG
4261	ACACCCTGGT	GAACCGCATC	GAGCTGAAGG	GCATCGACTT	CAAGGAGGAC	GGCAACATCC
4321	TGGGGCACAA	GCTGGAGTAC	AACTACAACA	GCCACAACGT	CTATATCATG	GCCGACAAGC
4381	AGAAGAACGG	CATCAAGGTG	AACTTCAAGA	TCCGCCACAA	CATCGAGGAC	GGCAGCGTGC
4441	AGCTCGCCGA	CCACTACCAG	CAGAACACCC	CCATCGGCGA	CGGCCCCGTG	CTGCTGCCCG
4501	ACAACCCTA	CCTGAGCACC	CAGTCCGCCC	TGAGCAAAGA	CCCCAACGAG	AAGCGCGATC
4561	ACATGGTCTT	GCTGGAGTTC	GTGACCGCCG	CCGGGATCAC	TCACGGCATG	GACGAGCTGT
4621	ACAAGTAAAG	CGGCCGCCCG	GCTGCAGATC	GTTCAAACAT	TTGGCAATAA	AGTTTCTTAA
4681	GATTGAATCC	TGTTGCCGGT	CTTGCGATGA	TTATCATATA	ATTTCTGTTG	AATTACGTTA

Supplemental Figure S7. F-SHMT08cΔ+H218A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

4801	GAGTCCCAGCA	ATTATACATT	TAATACGCGA	TAGAAAACAA	AATATAGCGC	GCAAACCTAGG	8041	GCCTGCCCGG	CCTCCTCCTT	CAAATCGTAC	TCCGGCAGGT	CATTTGACCC	GATCAGCTTG
4861	ATAAATTATC	GCGCGCGGTG	TCATCTATGT	TACTAGATCT	GATGATAAGC	TGTCAAACAT	8101	CGCACGGTGA	AACAGAACTT	CTTGAACCTC	CCGGCGCTGT	CAGTCCGGTT	GTAGATCGTC
4921	GAGAATTAAAT	TCGTAATCAT	GTCATAGCTG	TTTCTCTGTG	GAAATTTGTTA	TCCGCTCACAC	8161	TTGGAACAACC	ATCTGGGCTT	TGCCTTGCCG	GCGGCGAGCG	GTGGCAGGAA	GTAGAGAAAA
4981	ATTCCACACA	ACATACGAGC	CGGAAGCATA	AAGTGTAAG	CCTGGGGTGC	CTAATGAGTG	8221	CGGCCGATGC	CGGGATCGAT	CAAAAAGTAA	TCCGGGTGAA	CCGTCAGCAC	GTCCGGGTTC
5041	AGCTAACTCA	CATTAAATGC	GTGCGCTCA	CTGCGCGCTG	TCCAGTCGGG	AAACCTGTGCG	8281	TTGCGCTTCT	TGATCTCCGG	GTACATCCAA	TACAGTAGCT	CGATCTCGAT	GTACTCCGGC
5101	TGCCAGCTGC	ATTAATAGTC	GCGCCAACGC	GCGGCGGAGG	CGGGTTTGGG	TATTGGCTAG	8341	GCGCGGGTGT	GCCTCTTTAC	GATTCTGTAG	CGGCTTAATCA	AGGCTTCCAC	CTCGGATACC
5161	AGCAATTCCG	CGTTAATTCA	GTACATTAAT	AACGTCGCGA	ATGTGTTATT	AAGTTGTCTA	8401	GTCACCAAGC	GGCGCTTCTT	GGCCTTCTTC	GTACGCTGCA	TGGCAACGTG	CGTGGTGTTC
5221	AGCGTCAATT	TGTTTACACC	ACAATATATC	CTGCCACCAG	CCAGCCAAAC	GCTCCCCGAC	8461	AACCGAATGC	AGGTTTCTAC	CAGGTCGTCT	TTCTGCTTTC	CGCATCTGGC	TCCGCGCGCT
5281	CGGCAGCTCG	GCACAAAATC	ACCACTCGAT	ACAGGCAAGC	CATCAGTCGC	GGACGGCGTC	8521	AACCTTAGTA	GCTCGGCAAC	GTGTGGACGG	AACACGCGGC	CGGGCTTGTG	TCCGCTCCGT
5341	AGCGGAGGAG	CCGTTGTAA	GCGGCAGACT	TTGCTCATGT	TACCGATGCT	ATTTCGGAAG	8581	TCCCGGTATC	GGTTCATGGA	TTCGGTTAGA	TGGGAAACCG	CCATCAGTAC	CAGGTCGTAA
5401	ACGGCAACTA	AGCTGCCGGG	TTTGAACAC	GGATGATCTC	GCGGAGGGTA	GCATGTTGAT	8641	TCCCAACAC	TGGCCATGCC	GGCCGGCCCT	GCGGAAACCT	CTACGTCGCC	GTCTGGAAGC
5461	TGTAACGATG	ACAGAGCGTT	GCTGCCTGTG	ATCCAGATCA	TGAACAATAA	AACGTGCTCG	8701	TCGTAGCGGA	TACCTCGCC	AGCTCGTCGG	TCACGCTTCG	ACAGACGGAA	AACGCCACAG
5521	TTACATAAAC	AGTAATACAA	GGGGTGTTAT	GAGCCATATT	CAACGGGAAA	CGTCTTGCTC	8761	TCCATGATGC	TGCGACTATC	GCGGGTGCCC	ACGTCATAGA	GCATCGGAAC	GAAAAAATCT
5581	TAGGCCGCGA	TTAAATTCCA	ACATGGATGC	TGATTATAT	GGGTATAAAT	GGGCTCGCGA	8821	GGTTGCTCGT	CGCCCTTGCG	CGGCTTCCTA	ATCGACGCGC	CACCGCTCGC	CGGCGGTTGC
5641	TAATGTCCGG	CAATCAGGTG	CGACAATCTA	TCGATTGTAT	GGGAAGCCCG	ATGCGCCAGA	8881	CGGGATCTCT	TGCGGATTCT	ATCAGCGCGC	GCTTGCCACG	ATTCACCGGG	CGGTGCTTCT
5701	TTGTTTCTTG	AAACATGCGA	AGAGTAGCGT	TGCCAATGAT	TTTACAGATG	AGATGGTTCAG	8941	GCTTCGATGC	TTTCCGCTGT	GCGGCGCTGC	GCGGCGCTTCA	ACTTCTCCAC	CAGGTCATCA
5761	ACTAAACTGG	CTGACGGAAT	TTATGCTCTC	TCCGACCATC	AAGCATTTTA	TCCGTACTCC	9001	CCCAGCGCGG	CGCCGATTTG	TACCGGGCGC	GATGGTTTGC	GACCGTCACG	CCGATTCTCT
5821	TGATGATGCA	TGGTTACTCA	CCACTGCGAT	CCCCGGGAAA	ACAGCATTTCC	AGGTATTAGA	9061	GGGCTTGGGG	GTTCAGTGTC	CATTGCAAGG	CCGCGACAGC	ACCCAGCCGC	TTACGCTTGC
5881	AGAATATCTC	GATTACGGTG	AAAATATTGT	TGATGCGCTG	CGAGTGTGCC	TGCGCCGGTT	9121	CCAACGCCCC	CTTCTCCAC	ACATGGGGCA	TCCACGCGCG	TCGGTGCTGT	GTGTGTTCTG
5941	GCATTCGATT	CCTGTTTGTA	ATTGTCTTTT	TAACAGCGAT	CGCGTATTTC	GTCTCGCTCA	9181	ATTTTCCATG	CGCCCTCCTT	TAGCCGCTAA	AATTATCTA	CTCATTTTAT	CATTGCTCTA
6001	GGCGCAATCA	CGAATGAATA	ACGGTTTGGT	TGATGCGATG	GATTTTGTAT	ACGAGCGTAA	9241	TTTACTCTGG	TAGCTGCGCG	ATGTATTGAT	ATAGCAGCTC	GGTAATGGTC	TTGCCCTTGGC
6061	TGGCTGGCCT	GTTGAACAAG	TCTGGAAGAA	AATGCATAAA	ATTTTGGCAT	TCTCACCAGG	9301	GTACCGCGTA	CATCTTCACG	TTGGTGTGAT	CCTCCGCCGG	CAACTGAAAG	TTGACCCGCT
6121	TTCACTGCTC	ACTCAGTGAT	ATTTCTCACT	TGATAACCTT	CTTTTGTACG	AGGGGAAAT	9361	TCATGCTGCG	CGTGTCTGCC	AGGCTGGCCA	ACGTTGACAG	CTTGCTGCTG	CGTGCCTGCG
6181	AATAGGTTGT	ATTGATGTTG	GACGAGTCGG	AATCGCAGAC	CGATACCCAG	ATCTTGCCAT	9421	GACGCGCCGG	ACTTAGCGTG	TTTGTGCTTT	TGCTCATTTT	CTCTTTTACCT	CATTAATCTA
6241	CCTATGGAAC	TGCTTCGGTG	AGTTTTCTCC	TTCATTACAG	AAACGGCTTT	TTCAAAAAAT	9481	AATGAGTTTT	GATTTAATTT	GATTTGATTT	CAGCGGCGAG	CGCTGCCCTC	CGTGCCTTCA
6301	TTGTATTGAT	TAATCTGATA	TGAATAAAT	GCAGTTTACG	TGATGCTGCG	ATGAGTTTTT	9541	GGGTTCTGAT	TCAAGAACGG	TTGTGCCGCG	GGCGGCGATG	CCTGGGTAGC	TCACGCGCTG
6361	CTAAGAATTA	ATTCATGATC	CTGCATGACC	AAAATCCCTT	AACGTGAGTT	TTCGTTCCAC	9601	CGTGATACGC	GATCTCAAGAA	TGGGCGAGTC	GTACCCGCGC	AGCGCTCGTG	CAACCTACCC
6421	TGAGCGTCA	ACCCCGTAGA	AAAGATCAAA	GGATCTTCTT	GAGATCTCTT	TTTTCTGCGC	9661	GCCGATGCGC	GTGCTTTTGA	TCGCCCCGTA	CACGACAAAG	CGCGCTTGTA	GACCTTCCAT
6481	GTAATCTGCT	GCTTCAAAAC	AAAAAAACAA	CCGCTTACCAG	CGGTGGTTTG	TTTGCCGGAT	9721	CGTGACCTCA	ATGCGCTGCT	TAACCAAGTC	CACCAGGTCG	GCGGTGGCCC	ATATGTCGTA
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6601	ACTGCTCTTC	TAGTGATGCC	TAGTGTAGGC	CACCACTCTG	AGAACTCTGT	AGCAGCGCCT	9841	GTCCGCGCCG	TGGGCGCTCT	CGTGCATCAC	TACGAAGTGC	CGCCGCGCGA	TGGCTTCCAC
6661	ACATAGCTCG	CTCTGTAAAT	CCTGTTTACCA	GTGGCTGCTG	CCAGTGGCGA	TAAGTCTGTG	9901	GTGCGCGTCA	ATCGTCGGGC	GGTCGATGCC	GACAACGGTT	AGCGGTTGAT	CTTCCCGCAC
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6781	GGGGGTTCTG	GCACACAGCC	CAGCTTGAG	CGAAGCACT	ACACCGAACT	GAGATACCTA	10021	GCGGAGTTTG	AGGGCGCGGG	CTAGATGGGT	TGCGATGGTC	GTCTTGCCCTG	ACCCGCCCTT
6841	CAGCGTGAGC	TATGAGAAAG	CGCCACGCTT	CCCGAAGGGA	GAAAGGCGGA	CAGGTATCCG	10081	CTGGTTAAGT	ACAGCGATAA	CCTTCATGCG	TTCCCTTTGC	GTATTTGTTT	ATTTACTCAT
6901	GTAAGCGGCA	GGGTCGGAAC	AGGAGAGCGC	ACGAGGGAGC	TTCAGGGGGG	AAACGCTTGG	10141	CGCATATCAT	ACGACGACG	CGCATGACGC	AAGCTGTTT	ACTCAAAATC	ACATCACCTT
6961	TATCTTTATA	GTCCTGTGCG	GTTTCGCCAC	CTCTGACTTG	AGCGTCGATT	TTTGTGATGC	10201	TTTAGACGCG	GCGCTCTGGT	TTCTTCAGCG	GCCAAAGTGG	CTCCGACAGC	CGCCACCTTG
7021	CTGTCAGGGG	GGCGGAGCCT	ATGGA AAAAC	GCCAGCAACG	CGGCTCTTTT	ACGGTTTCTG	10261	GCATCAGACA	AACCGGCGAG	GATTTTCATG	AGCCGACAGG	TTGAGACGTG	GCGGGCGGCG
7081	GCCTTTTGGT	GGCCTTTTGC	TCACATGTTT	TTTCTGCGGT	TATCCCTGTA	TCTGTGGAT	10321	TCGAACACGT	ACCCGCGCGC	GATCATCTCC	GCCTCGATCT	CTTCGGTAAAT	GAAAAACGGT
7141	AACCGTATTA	CCGCCCTTGA	GTGAGCTGAT	ACCGCTCGCC	GCAGCCGAAC	GACCGAGCGC	10381	TCGTCCTGCG	CGTCTGTTGT	CGGTTTTCAT	CTTGTTCTCT	TTGGCGTTTA	TCTCGGCGGT
7201	AGCGAGCTAG	TGAGCGGAGA	AGCGGAAGAG	CGCCTGATGC	GGTATTTTCT	CCTTAGCAGT	10441	CCGCGAGGCG	TCGCGGCTCG	GTCAATGCGT	CCTACGGA	GGCAGCCGCG	CGCTGGCGCT
7261	CTGTGCGGTA	TTTCAACCGC	CATATGGTGC	ACTCTCAGTA	CAATCTGCTG	TGATGCCGCA	10501	CGGTGGGCGT	CACCTTCTCG	CTGCGCTCAA	GTGCGCGGTA	CAGGTCGAG	CGATGCACGC
7321	TAGTTAAGCC	AGTATACACT	CCGCTATCGC	TACGTGACTG	GGTCATGGCT	GCGCCCCGAC	10561	CAAGCAGTGC	AGCCGCTCTT	TTACCGGTGC	GGCCTTCTGT	GTGATCAGC	TCCGCGGCGT
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7621	CGCATAGGCT	GACCGGAAGC	GGCGGGGCGT	AGGGAGCGCA	GCGACCGAAG	GGTAGGCGCT	10861	GGGTGCTGCG	GGCCAGGCGG	TCTAGCCTGG	TCATGTCTAC	AACGTCGCCA	GGGCGTAGGT
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7741	AGAGTTTTAA	TAAAGTTTTAA	AGAGTTTTAG	GCGGAAAAAT	CGCCTTTTTT	CTCTTTTATA	10981	ACAGCTTTGT	GACGCGCGCG	CGCGTGCAGT	CGGCGCTGTT	TTTGCTCAAG	TCCTGGTCAAG
7801	TCAGTCACTT	ACATGTGTGA	CCGGTTTCCA	ATGTACGGCT	TTGGGTTTCC	AATGTACGGG	11041	CGGTGCTGAC	GCGGGCATAG	CCCAGCAGGC	CAGCGGCGGC	GCTCTGTGTC	ATGGCGTAAT
7861	TTCCGGTTTC	CAATGTACGG	CTTTGGGTTT	CCAATGTACG	TGCTATCCAC	AGGAAAGAGA	11101	GTCTCCGGTT	TAGTTCGCAA	GTATTCTACT	TTATGCGACT	AAAAACACGC	ACAAGAAAAA
7921	CCTTTTTCGAC	CTTTTTCGCC	TGCTAGGGCA	ATTTGCCCTA	GCATCTGCTC	CGTACATTAG	11161	GTCAGGAAAA	GAGGAGGCGG	GCAGCCTGTG	CGCTAAGCTA	GGACTTGTGC	GACATGTGCT
7981	GAACCGGCGG	ATGCTTCGCC	CTCGATCAGG	TTGCGGTAGC	GCATGACTAG	GATCGGGCCA	11221	TTTCAGAAGA	CGGCTGCACT	GAACGTCAGA	AGCCGACTGC	ACTATAGCAG	CGGAGGGGTT
							11281	GGATCAAAAGT	ACT				

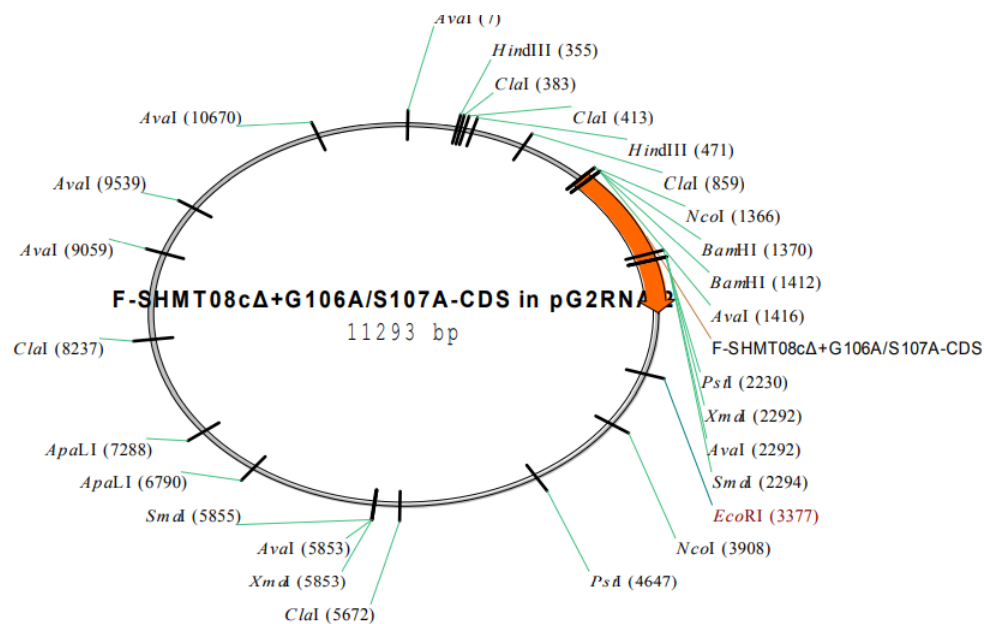
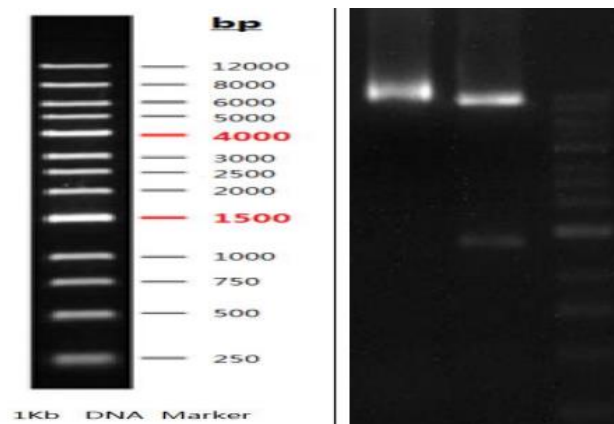
Supplemental Figure S7. F-SHMT08cΔ+H218A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Gene Name F-SHMT08cΔ+G106A/S107A-CDS

Cloning Vector pG2RNAi2

Length (bp) 1430

Cloning Sites Ascl-AvrII



Supplemental Figure S8. F-SHMT08cΔ+G106A/S107A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Detailed Sequence of the Whole Construct:

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1  TTGATCCCGA GGGGAACCCCT GTGGTTGGCA TGCACATACA AATGGACGAA CGGATAAACCC
61  TTTTCACGCC CTTTTAAATA TCCGTTATTC TAATAAACGC TCTTTTCTCT TAGGTTTACC
121 CGCCAATATA TCCTGTCAAA CACTGATAGT TTAAACTGAA GGCGGGAAAC GACAATCTGA
181 TCCAAGCTCA AGCTCATTCT CCATTACAGC TGCGCAACTG TTGGGAAGGG CGATCGGTGC
241 GGGCCTCTTC GCTATTACGC CAGCTGGCGA AAGGGGGATG TGCTGCAAGG CGATTAAAGTT
301 CGCTAACCCC ACCCTTTTCC CACTCACCAC CTTCTAAAAC CACGCCCCACT CCCAACCTTA
361 TTACCCTGTT ATCCCTAGAT ATCGATTTTG GCTACCTTAA GGTAGCCAAA ATCGATCACT
421 AGTGC GGCCG CGGGCCCAAT ATAACAACGA CGTCGTAACA GATAAAGCGA AGCTTGAAGG
481 TGCATGTGAC TCCGTCAAGA TTACGAAACC GCCAACTACC ACGCAAATTG CAATTCTCAA
541 TTTCTAGAAA GGACTCTCCG AAAATGCATC CAATACCAAA TATTACCCGT GTCATAGGCA
601 CCAAGTGACA CCATACATGA ACACGCGTCA CAATATGACT GGAGAAGGGT TCCACACCTT
661 ATGCTATAAA ACGCCCCACA CCCCTCCTCC TTCCTTCGCA GTTCAATTCC AATATATTCC
721 ATTCTCTCTG TGTATTTTCC TACCTCTCCC TTCGAAGTTA GTCGATTTCT TCTGTTTTTC
781 TTCTTCGTTT TTTCCATGAA TTGTGTATGT TCTTTGATCA ATACGATGTT GATTTGATTG
841 TGTTTTGTTT GGTTTCATCG ATCTTCAATT TTCATAATCA GATTCAGCTT TTATTATCTT
901 TACAACAACG TCCTTAATTT GATGATTCTT TAATCGTAGA TTTGCTCTAA TTAGAGCTTT
961 TTCATGTCAG ATCCCTTTAC AACAAGCCTT AATTGTTGAT TCATTAATCG TAGATTAGGG
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1081 AATTACTTCA GATCCGTTAA ACAACAGCCT TATTTTTTAT ACTTCTGTGG TTTTTCAGA
1141 AATCGTTCAG ATCCGTTGAC AAAAAGCCTT ATTCGTTGAT TCTATATCGT TTTTCGAGAG
1201 ATATTGCTCA GATCTGTTAG CAACTGCCTT GTTTGTTGAT TCTATTGCCG TGGATTAGGG
1261 TTTTTTTTCA CGAGATTGCT TCAGATCCGT ACTTAAGATT ACGTAATGGA TTTTGATTCT
1321 GATTTATCTG TGATTGTTGA CTCGACAGCG GCCGCACC GG CGCGCCATGG ATCCAGTAAG
1381 CGTGTGGGGT AACACGCCCT TGGCGACGGT GGATCCCGAG ATCCATGACC TCATCGAGAA
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1621 CGCCCTCCAA GCCTTCCACC TCGACGCCCA ATCCTGGGGC GTCAACGTCC AGCCCTACTC
1681 CGCTGCTCCG GCCAACTTCG CCGCCTACAC CGCCGTCCTC AACCCCCACG ACCGCATCAT
1741 GGGGCTAGAT CTCCGCTCCG GCGGCCACCT CACCCACGGC TACTACACCT CCGGCGGAAA

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1801	GAAGATCTCC	GCCACCTCCA	TTTACTTCGA	GAGTCTCCCT	TACAAGGTAA	ACTCCACCAC
1861	CGGCTACATC	GACTACGACC	GCTTGGAAGA	AAAAGCCCTA	GACTTCAGGC	CAAAACTCAT
1921	AATCTGCGGT	GGCAGCGCGT	ACCCTCGCGA	TTGGGACTAC	AAACGTTTCA	GGGAAGTCGC
1981	TGATAAGTGC	GGAGCATTGC	TTCTCTGCGA	CATGGCGCAC	ACTAGCGGCC	TTGTGGCCGC
2041	GCAGGAAGTG	AACAGCCCTT	TCGAGTATTG	CGACATTGTG	ACCACCACGA	CTCACAAGAG
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2161	GGGGCAGCCG	GAGAACGCGG	TTTATGATTT	CGAGGACAAG	ATTAACCTCG	CGGTGTTCCC
2221	TTGCTGTCAG	GGTGGGCCCC	ACAACCACCA	GATCGGTGCT	CTCGCCGTGG	CGCTGAAGCA
2281	GGCCGCGTCG	CCCGGGTTTA	AGGCCTACGC	GAAGCAGGTT	AAGCGCAACG	CCGTTGCGCT
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2461	TCTCTGTAAC	ATTACTGTTA	ACAAGAACGC	TGTTTTTGGT	GATAGCAGTG	CCTTGGCCCC
2521	TGGTGGAGTG	CGAATTGGTG	CCCCTGCCAT	GACTTCTAGG	GGTTTGGTTG	AAAAAGACTT
2581	TGAGCAGATT	GGTGAGTTCC	TTCACCGTGC	TGTGACTCTC	ACACTGGAGA	TCCAGAAGGA
2641	GCATGGCAAA	CTTCTCAAGG	ATTTCAACAA	GGGTCTCGTC	AACAACAAGG	CTATTGAAGA
2701	TCTCAAAGCT	GATGTTGAGA	AGTTCTCTGC	CTTGTTTGAC	ATGCCTGGCT	TCCTGGTATC
2761	TGAAATGAAG	TACAAGGATT	AGCCTAGGTT	CGAGTATTAT	GGCATTGGGA	AAACTGTTTT
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2941	TCAAATTAAT	ATTATTTGTT	TTTTCTCTTA	TTTGTGTGT	GTTGAATTTG	AAATTATAAG
3001	AGATATGCAA	ACATTTTGTT	TTGAGTAAAA	ATGTGTCAAA	TCGTGGCCTC	TAATGACCGA
3061	AGTTAATATG	AGGAGTAAAA	CACTTGTAAGT	TGTACCATTA	TGCTTATTCA	CTAGGCAACA
3121	AATATATTTT	CAGACCTAGA	AAAGCTGCAA	ATGTTACTGA	ATACAAGTAT	GTCTCTTGT
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4201	CCATCTTCTT	CAAGGACGAC	GGCAACTACA	AGACCCGCGC	CGAGGTGAAG	TTGAGGGCG
4261	ACACCCTGGT	GAACCGCATC	GAGCTGAAGG	GCATCGACTT	CAAGGAGGAC	GGCAACATCC
4321	TGGGGCACAA	GCTGGAGTAC	AACTACAACA	GCCACAACGT	CTATATCATG	GCCGACAAGC
4381	AGAAGAACGG	CATCAAGGTG	AACCTCAAGA	TCCGCCACAA	CATCGAGGAC	GGCAGCGTGC
4441	AGCTCGCCGA	CCACTACCAG	CAGAACACCC	CCATCGGCGA	CGGCCCCGTG	CTGCTGCCCG
4501	ACAACCACTA	CCTGAGCACC	CAGTCCGCCC	TGAGCAAAGA	CCCCAACGAG	AAGCGCGATC
4561	ACATGGTCCT	GCTGGAGTTC	GTGACCGCCG	CCGGGATCAC	TCACGGCATG	GACGAGCTGT
4621	ACAAGTAAAG	CGGCCGCGCG	GCTGCAGATC	GTTCAACAT	TTGGCAATAA	AGTTTCTTAA
4681	GATTGAATCC	TGTTGCCGGT	CTTGCGATGA	TTATCATATA	ATTTCTGTTG	AATTACGTTA
4741	AGCATGTAAT	AATTAACATG	TAATGCATGA	CGTTATTTAT	GAGATGGGTT	TTTATGATTA
4801	GAGTCCCGCA	ATTATACATT	TAATACGCGA	TAGAAAACAA	AATATAGCGC	GCAAACTAGG
4861	ATAAATTATC	GCGCGCGGTG	TCATCTATGT	TACTAGATCC	GATGATAAGC	TGTCAAACAT
4921	GAGAATTAAT	TCGTAATCAT	GTCATAGCTG	TTTCTGTGT	GAAATTGTTA	TCCGCTCACA
4981	ATTCCACACA	ACATACGAGC	CGGAAGCATA	AAGTGTAAG	CCTGGGGTGC	CTAATGAGTG

Supplemental Figure S8. F-SHMT08cΔ+G106A/S107A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

5041	AGCTAACTCA	CATTAATTGC	GTTGCGCTCA	CTGCCCGCTT	TCCAGTCGGG	AAACCTGTGC	5281	TTGCTTTCTG	TGATCTCGCG	GTACATCCAA	TCAGCTAGCT	CGATCTCGAT	GTACTCCGGC
5101	TGCCAGCTGC	ATTAATGAAT	CGGCCAACGC	CGCGGGAGAG	GCGGTTTGCG	TATTGGCTAG	8341	CGCCCGGTTT	CGCTCTTTAC	GATCTTGTAG	CGGCTAATCA	AGGCTTCACC	CTCGGATACC
5161	AGCAATTCGG	CGTTAATFCA	GCATATAAA	AACGTCGCCA	ATGTTGTTAT	AAGTGTCTCA	8401	GTCACACAGC	GGCCGTTCTT	GGCCTTCTTC	GTACGCTGCA	TGGCAACGTC	CGTGGGTGTT
5221	AGCGTCAATT	TGTTTACACC	ACATATATC	CTGCCACACG	CACGCCAAAC	GCTCCCGCAC	8461	AACCGAATGC	AGGTTTCTAC	CAGGTCTGCT	TTCTGCTTTC	CGCCATCGGC	TCCCGGCGAG
5281	CGGCAGCTCG	GCACAAAATC	ACCACTCGAT	ACAGGCAGCC	CATCAGTCCG	GGACGGCGTC	8521	AACTTTAGTA	GCTCCGCAAC	GTTGTGGACGG	AACACGGCGG	CGGGCTTGTC	TCGCTTCCCT
5341	AGCGGGAGAG	CCGTTGTAAAG	GCGGCAGACT	TTGCTCATGT	TACCGATGCT	ATTTCGGAAG	8581	TCCCGGTATC	GGTTCATGGA	TTCGGTTAGA	TGGGAAACCG	CCATCAGTAC	CAGGTCTGTA
5401	ACGGCAACTA	AGCTGCCGGG	TTTGAAACAC	GGATGATCTC	GCGGAGGGTA	GCATGTTGAT	8641	TCCACACAC	TGGCCATGCC	GGCCGGCCCT	GCGGAAACCT	CTACGTCGCC	GTCTGGAAGC
5461	TGTAACGATG	ACAGAGCGTT	GCTGCTGTG	ATCCAGATCA	TGAACAATAA	ACTGTCTGTC	8701	TCGTAGCGGA	TCACCTCGCC	AGCTCGTCGG	TACGCTTTCG	ACAGACGGAA	AACGGCCACG
5521	TTACATAAAC	AGTAATACAA	GGGGTGTTAT	GAGCCATATT	CAACGGGAAA	CGTCTTGCTC	8761	TCCATGATGC	TGCGACTATC	CGGGGTGCCC	ACGTCATAGA	GCATCGGAA	AAAAAATCT
5581	TAGGCCCGCA	TTAAATTCCT	ACATGGATGC	TGATTTATAT	GGGTATAAAT	GGGCTCGCGA	8821	GGTTGCTCGT	CGCCCTTGCG	CGGCTTCCTA	ATCGACGGCG	CACCGGCTGC	CGGCGGTTGC
5641	TAAATGTGGG	GCATCAGGTG	CGACAATCTA	TCGATTGTAT	GGGAAGCCCG	ATGCGCCAGA	8881	CGGGATTCTT	TGCGGATTTC	ATCAGCGGCC	GCTTGCCACG	ATTACCCGGG	CGGTGCTTCT
5701	GTTGTTTCTG	AAACATGGCA	AAGGTAGCGT	TGCCAATGAT	GTTACAGATG	AGATGGTCAG	8941	GCCTCGATGC	GTTGCGCGTG	GGCGGCTCTC	GCGGCCTTCA	ACTTCTCCAC	CAGGTACATCA
5761	ACTAAATCTG	CTGACGGAA	TTATGCCTCT	TCCCGACCAT	AAGCATTTTA	TCCGTAATCTC	9001	CCCAGCGCCG	CGCCGATTTC	TACCGGGCCG	GATGGTTTGC	GACCGTCACG	CCGATTCTCT
5821	TGATGATGCA	TGGTTACTCA	CCACTGCGAT	CCCCGGGAAA	ACAGCATATC	AGGTATTAGA	9061	GGGCTTGCGG	GTTCCAGTGC	CATTGACAGG	CCGGCAGACA	ACCCAGCCCG	TTACGCTCTG
5881	AGAATATCCT	GATTCAGGTG	AAAATATTGT	TGATGCGCTG	GCAGTGTTC	TGCGCCGGTT	9121	CCAACTCCCG	GTTCCCTCAC	ACATGGGGCA	TTCCACGGCG	TCGGTGCCTG	GTTGTTCTTG
5941	GCATTCGATT	CCTGTTTGTA	ATTGTCCTTT	TAACAGCGAT	CGCGTATTTC	GTCTCGCTCA	9181	ATTTTCCCAT	CGCCCTCCTT	TAGCCGCTAA	ATTTATCTA	ACTTCTTATT	GATTTGCTCA
6001	GCGCAATCA	CGAATGAATA	ACGCTTTGGT	TGATGCGAGT	GATTTTGATG	ACGAGCGTAA	9241	TTTACTCTGG	TAGCTGCGCG	ATGTATTAG	ATAGCAGCTC	GGTAATGGTC	TTGCCCTTGG
6061	TGGCTGGCCT	GTTGAACAAG	TCTGGAAAGA	AATGCATAAA	CTTTTGCCAT	TCTCACCGGA	9301	GTACCGCGTA	CATCTTCAGC	TTGGTGTGAT	CCTCCGCCCG	CAACTGAAAG	TTGACCCGCT
6121	TTACAGTCGT	ACTCATGGTG	ATTCTCTACT	TGATAACCTT	ATTTTGTAGC	AGGGGAAAT	9361	TCATGGCTG	CGTGTCTGCG	AGGCTGGCCA	ACGTTGCAGC	CTTGCTGCTG	CGTGCCTCG
6181	AATAGGTTGT	ATTGATGTTG	GACGAGTCGG	AATCGCAGAC	CGATAACCAG	ATCTTGCCAT	9421	GACCTGCGGC	ACTTAGCGTG	TTTGTGCTTT	TGCTCATTTT	CTCTTTACCT	CATTAGCTCA
6241	CCTATGGAAG	TGCTCGGTG	AGTTTCTTCC	TTCATTACAG	GAACGGCTTT	TTCAAAAATA	9481	AATGAGTTTT	GATTTAATTT	CAGCGGCCAG	CGCCTGGACC	TCGCGGGCAG	CGTCCGCCCT
6301	TGGTATTGAT	AATCCTGATA	TGAATAAAT	GCAGTTTCTA	TTGATGCTCG	ATGAGTTTTT	9541	GGGTTCTGAT	TCAAGAACGG	TTGTGCCGCG	GCGCGCAGTG	CTCGGGTAGC	TCACGCGCTG
6361	CTAAGAATTA	ATTCATGATC	CTGCATGACC	AAAAATCCCT	AACGTTGAGT	TTCTGTTCCAC	9601	CGTGATACGG	GATCAAGAA	TGGGCAGCTC	GTACCCGGCC	ACGCGCTCGG	CAACCTCAC
6421	TGAGCGTCA	ACCCGCTAGA	AAAGATCAAA	GGATCTTCTT	GGATCTTCTT	TTTCTGCGC	9661	GCCGATGCGC	GTCCTTTTGA	TGCCCCGCGA	CACGACAAAG	CGCGCTTGTA	GCCTTCCATC
6481	GTAATCTGCT	GCTTGCAAA	AAAAAAACCA	CCGCTACCAG	CGGTGGTTTG	TTTGCCGGAT	9721	CGTGACCTCA	ATGCGCTGCT	TAACAGCTC	CACCAAGTCT	GCGGTGGCCC	ATATGTCGTA
6541	CAAGAGCTAC	CAACTCTTTT	TCCGAAGGTA	ACTGGCTTCA	CGAGAGCGCA	GATACCAAAT	9781	AGGGCTTGCG	TGCAACGGAA	TGACGACGAA	GTCCGCTGCC	TGTATCGCGC	ACACAGCCAA
6601	ACTGTCCTTC	TAGTTAGGCC	GTAGTTAGGC	CACCACTTCA	AGAACTCTGT	AGCAGCCCTC	9841	GTCCGCGGCC	TGGGGCGCTC	CGTCGATCAC	TACGAAGTCT	CGCGCCGCGA	TGGCCTTAC
6661	ACATACCTCG	CTCTGCTAAT	CCTGTTACCA	GTGGCTGCTG	CCAGTGCGCA	TAAAGTCGTG	9901	GTCGCGGTCA	ATCGTCGGGC	GGTCGATGCC	GACAACGGTT	AGCGGTTGAT	CTTCCCGCAC
6721	CTTACCCGGT	TGGACTCAAG	ACGATAGTTA	CCGGATAAGG	CGCAGCGGTC	GGGCTGAACG	9961	GGCCGCCCAA	TCGCGGGCAC	TGCCCTGGGG	ATCGGAATCG	ACTAACAGAA	CATCGGCCCC
6781	GGGGGTTCTG	GATACAGACC	CAGCTTGGAG	CGAACGACCT	ACACCGAAT	GAGATACCTA	10021	GGCGAGTTGC	AGGGCGCGGG	CTAGATGGGT	TGCGATGGTC	GTCTTGCCCT	ACCCGCTTTT
6841	CAGCGTGAGC	TATGAGAAAG	CGCCAGCGTT	CCCGAAGGGA	GAACGGCGCA	AGGTTATCCG	10081	CTGGTTAAGT	ACAGCGATAA	CCTTCATGCG	TTCCCTTTGC	GTATTTGTTT	ATTTACTCAT
6901	GTAAGCGGCA	GGGTGCGAAC	AGGAGAGCGC	ACGAGGGAGC	TTCAGGGGGG	AAACGCTTGG	10141	CGCATCATAT	ACGCAGCGAC	CGCATGACGC	AAGCTGTTTT	ACTCAAATAC	ACATCACCTT
6961	TATCTTTATA	GTCCTGTGCG	GTTTCGCCAC	CTCTGACTTG	AGCGTCGATT	TTTGTGATGC	10201	TTTAGACGGC	GGCGCTCGGT	TTCTTCAGCG	GCCAAGCTGG	CCGGCCAGGC	CGCCAGCTTG
7021	TCGTACAGGG	GCGCGAGGCT	ATGGAAAAAC	GCCAGCAACG	CGGCTTTTTT	ACGCTTCTTG	10261	GCATCAGACA	AACCGGCCAG	GATTTTCATG	AGCCGCACGG	TTGAGACGTG	CGCGGGCGCG
7081	GCCTTTTGCT	GGCCTTTTGC	TCACATGTTT	TTTCTGCGT	TATCCCTTGA	TTCTGTGGAT	10321	TCGAACACGT	ACCCGGCGCG	GATCATCTCC	CCCTCGATCT	CTTCGGTAAT	GA AAAACGGT
7141	AACCGTATTA	CGCCCTTTGA	GTGAGCTGAT	ACCGCTCGCC	GCAGCCGAAC	GACCCGAGCGC	10381	TCGTCTTGGC	CGTCTTGGTG	CGGTTTCATG	CTTGTTCTCT	TTGGCGTTCA	TTCTCGGCGG
7201	AGCGAGTCA	TGAGCGAGGA	AGCGGAAGAG	CGCCTGATGC	GGTATTTTCT	CCTTACGCAT	10441	CCGCCAGGGC	GTCGCGCTCG	GTCAATGCGT	CCTACGGAA	GGCACCGCGC	CGCCTGGCCT
7261	CTGTGCGGTA	TTTCACACCG	CATATGGTGC	ACTCTCAGTA	CAATCTGCTC	TGATGCCGCA	10501	CGGTGGCGGT	CACCTCTCTC	CTCGCTCAA	GTCGCGGGTA	CAGGTCTCAG	CGATGCACGC
7321	TAGTTAAGCC	AGTATACACT	CCGCTATCGC	TACGTGACTG	GGTCAATGGT	CGCCCCGAC	10561	CACAGCAGTG	AGCGCGCTCT	TTACGGGTGC	GGCCTTCTTG	TCGTCATGAC	TCGCGGCGGT
7381	ACCCGCCAAC	ACCCGCTGAC	GCGCCCTGAC	GGGCTTGTCT	GCTCCCGGCA	TCCGCTTACA	10621	GCGCGATCTG	TGCCGGGGTG	AGGGTAGGGC	GGGGGCCAAA	CTTCACGCCT	CGGGCCTTGG
7441	GACAAGCTGT	GACCGTCTCC	GGGAGCTGCA	TGTGTACAG	GTTTTCACCG	TCATACCCGA	10681	CGGCTCTCGC	CCCGCTCCGG	GTCGCGTCA	TGATTAGGGA	ACGCTCGAAC	TCGGCAATGC
7501	AACGCGCGAG	GCAGGGTGCC	TTGATGTGGG	CGCCGGCGGT	CGAGTGGCGA	CGGCGCGGCT	10741	CGCGCAACAC	GGTCAACACC	ATGCGGCGG	GCGCGGTGGT	CTTCGGTCA	CAGCGCTCTG
7561	TGTCGCGGCC	CTGGTAGATT	GCCTGGCCGT	AGGCGCAGCA	TTTGTGAGCG	GCCAGCGGCC	10801	CCAGGCTACG	CAGGCCCCGG	CCGGCCTCCT	GGATGCGCTC	GGCAATGTCC	AGTAGGTCGC
7621	GCGATAGGCC	GACGCGAAGC	GGCGGGCGGT	AGGGAGCGCA	GCGTCAAGAG	GATAGGCGCT	10861	GGGTGCTGCG	GGCCAGGCGG	TCTAGCCTGG	TCACTGTAC	AACGTGCGCA	GGGCGTAGGT
7681	TTTTGACGCT	CTTCGGCTGT	GCGCTGGCCA	GACAGTTATG	CGGCTTTTTT	CTCTTTTATA	10921	GGTCAAGCAT	CCTGGCCAGC	TCGGGGCGGT	CGCGCCTGGT	GCCGGTGATC	TTCTCGGAAA
7741	AGAGTTTTAA	TAAAGTTTTA	AGAGTTTTAG	GCGGAAAAAT	CGCCTTTTTT	CTCTTTTATA	10981	ACAGCTTGGT	GTCAGGCGGC	GCGTGCAGTT	GCGCCGTTTG	GTTGTGTCAG	TCCTGGTCTG
7801	TCAGTCACTT	ACATGTGTGA	CCGCTTCCCA	ATGTACGGCT	TTGGGTCTCC	ATCTACCGGG	11041	CGGTGCTGAC	GCGGGCATAG	CCCAGCAGGC	CAGCGCGGCG	GCTCTTGTTC	ATGGCGTAAT
7861	TTCCGGTTCC	CAATGTACGG	CTTTGGGTTT	CCAATGTACG	TGCTATCCAC	AGGAAAGAGA	11101	GTCTCCGGTT	CTAGTCGCAA	GTATTCTACT	TTATGCGACT	AAAAACGCG	ACAAGAAAA
7921	CTTTTTCGAC	CTTTTTCGCC	TGCTTAGGGCA	ATTTGCGCTA	GCATCTGCTC	GCTACATTAG	11161	GCCAGGAAAA	GGGCGGGGCG	GCAGCCTGTC	GCGTAACCTA	GGACTTGTGC	GACATGTGCT
7981	GACCCGCGCG	ATGCTTTCGCC	CTGCATCAGG	TTGCGGTAGC	GCATGACTAG	GTAGAGGCCA	11221	TTTCAAGAGA	GCGCTGCACT	GAACGTACAG	AGCCGATGTC	ACTATAGCAG	CGGAGGGGTT
8041	GCCTGCCCCG	CCTCTCTCTT	CAAAATCGTAC	TCCGGCAGGT	CATTTGACCC	GATCAGCTTG	11281	GGATCAAGT	ACT				
8101	CGCAGCGTGA	AACAGCAACT	CTTGAACCTT	CCGCGCGCTG	CACCTGCGTT	GATAGTCTGT							
8161	TTGAACAACC	ATCTGGCTTC	TGCTCTGCTT	GCGGCGCGCG	CTGCCAGGCG	TAGAGAAAAA							
8221	CGGCCGATGC	CGGGATCGAT	CAAAAAGTAA	TGGGGGTGAA	CGCTCAGCAC	GTCCGGGTTT							

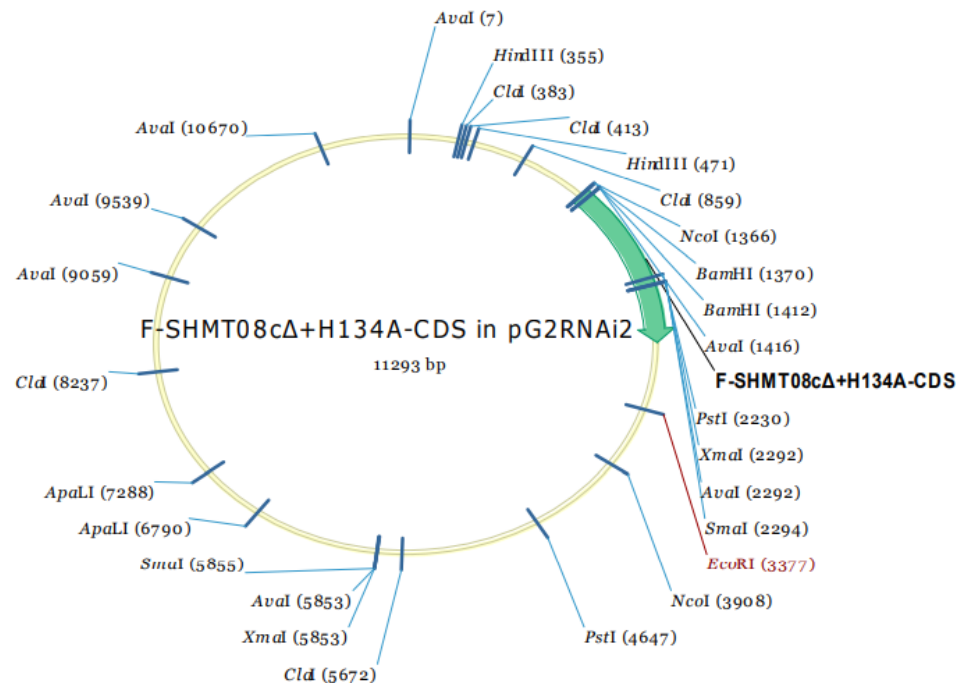
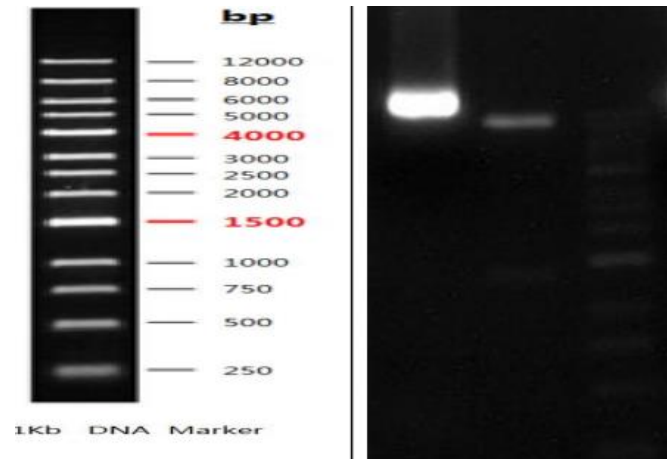
Supplemental Figure S8. F-SHMT08cΔ+G106A/S107A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Gene Name F-SHMT08cΔ+H134A-CDS

Cloning Vector pG2RNAi2

Length (bp) 1430

Cloning Sites Ascl-AvrII



Supplemental Figure S9. F-SHMT08cΔ+H134A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Detailed Sequence of the Whole Construct:

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1 TTGATCCCGA GGGGAACCCCT GTGGTTGGCA TGCACATACA AATGGACGAA CGGATAAACCC
61 TTTTCACGCC CTTTAAATA TCCGTTATTC TAATAAACGC TCTTTTCTCT TAGGTTTACC
121 CGCCAATATA TCCTGTCAAA CACTGATAGT TTAAACTGAA GCGGGGAAAC GACAATCTGA
181 TCCAAGCTCA AGCTCATTCG CCATTCAGGC TGCGCAACTG TTGGGAAGGG CGATCGGTGC
241 GGGCCTCTTC GCTATTACGC CAGCTGGCGA AAGGGGGATG TGCTGCAAGG CGATTAAAGTT
301 GGGTAACGCC AGGGTTTTCC CAGTCACGAC GTTGTA AAAAC GACGGCCAGT GCCAAGCTTA
361 TTACCCTGTT ATCCCTAGAT ATCGATTTTG GCTACCTTAA GGTAGCCAAA ATCGATCACT
421 AGTGCGGCCG CGGGCCCAAT ATAACAACGA CGTCGTAACA GATAAAGCGA AGCTTGAAGG
481 TGCATGTGAC TCCGTCAAGA TTACGAAACC GCCAACTACC ACGCAAATTG CAATTCTCAA
541 TTTCTTAGAA GGACTCTCCG AAAATGCATC CAATACCAA TATTACCCGT GTCATAGGCA
601 CCAAGTGACA CCATACATGA ACACGCGTCA CAATATGACT GGAGAAGGGT TCCACACCTT
661 ATGCTATAAA ACGCCCCACA CCCCTCCTCC TTCCTTCGCA GTTCAATTCC AATATATTCC
721 ATTCTCTCTG TGTATTTCCC TACCTCTCCC TTCAAGGTTA GTCGATTTCT TCTGTTTTTC
781 TTCTTCGTTC TTTCCATGAA TTGTGTATGT TCTTTGATCA ATACGATGTT GATTTGATTG
841 TGTTTTGTTT GGTTTCATCG ATCTTCAATT TTCATAATCA GATTCAGCTT TTATTATCTT
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901 TACAACAACG TCCTTAATTT GATGATTCTT TAATCGTAGA TTTGCTCTAA TTAGAGCTTT	2461 TCTCTGTAAC ATTACTGTTA ACAAGAACGC TGTTTTTGGT GATAGCAGTG CCTTGCCCC
961 TTCATGTCAG ATCCCTTTAC AACAGCCTT AATTGTTGAT TCATTAATCG TAGATTAGGG	2521 TGGTGGAGTG CGAATTGGTG CCCCTGCCAT GACTTCTAGG GGTTTGGTTG AAAAAGACTT
1021 CTTTTTTCAT TGATTACTTC AGATCCGTTA AACGTAACCA TAGATCAGGG CTTTTTCATG	2581 TGAGCAGATT GGTGAGTTCC TTCACCGTGC TGTGACTCTC AACTGAGAGA TCCAGAAGGA
1081 AATTACTTCA GATCCGTTAA ACAACAGCCT TATTTTTTAT ACTTCTGTGG TTTTCAAGA	2641 GCATGGCAAA CTCTCAAGG ATTTCAACAA GGGTCTCGTC AACAACAAGG CTATTGAAGA
1141 AATTGTTTCA ATCCGTTGAC AAAAAGCCTT ATTCTGTTGAT TCTATATCGT TTTTCGAGAG	2701 TCTCAAAGCT GATGTTGAGA AGTTCTCTGC CTGTTTGAC ATGCTGGCTC TCCTGGTATC
1201 ATATTGCTCA GATCTGTTAG CAACTGCCTT GTTTGTTGAT TCTATTGCCG TGGATTAGGG	2761 TGAAATGAAG TACAAGGATT AGCCTAGGTT CGAGTATTAT GGCATTGGGA AAAGTGTTTT
1261 TTTTTTTTCA CGAGATTGCT TCAGATCCGT ACTTAAGATT ACGTAATGGA TTTTGATTCT	2821 TCTTGTACCA TTTGTTGTGC TTGTAATTTA CTGTGTTTTT TATTCGGTTT TCGCTATCGA
1321 GATTATCTG TGATTGTTGA CTCGACAGCG GCCGCACCGG CGCGCCATGG ATCCAGTAAG	2881 ACTGTGAAAT GGAAATGGAT GGAGAAGAGT TAATGAATGA TATGGTCTCT TTGTTTCATC
1381 CGTGTGGGGT AACACGCCCT TGGCGACGGT GGATCCCGAG ATCCATGACC TCATCGAGAA	2941 TCAAATTAAT ATTATTGTT TTTTCTCTTA TTTGTTGTGT GTTGAATTTG AAATTATAAG
1441 GGAGAAGCGC CGTCAATGCC GCGGAATCGA GCTCATCGCC TCCGAGAAGT TCACCTCCTT	3001 AGATATGCAA ACATTTTGTG TTGAGTAAAA ATGTGTCAAA TCGTGGCCTC TAATGACCGA
1501 CGCCGTCATC GAGGCCCTCG GCAGCGCTCT CACGAACAAA TACTCCGAGG GCATGCCGGG	3061 AGTTAATATG AGGAGTAAAA CACTTGAGT TGTACCATTA TGCTTATTCA CTAGGCAACA
1561 CAACCGCTAC TACGCGCGCA ATGAATACAT CGACCAAGAT GAAAACCTCT GCCGCTCAGG	3121 AATATATTTT CAGACCTAGA AAAGCTGCAA ATGTTACTGA ATACAAGTAT GTCCTCTTGT
1621 CGCCCTCCAA GCCTTCCACC TCGACGCCCA ATCCTGGGGC GTCAACGTCC AGCCCTACTC	3181 GTTTTAGACA TTTATGAAGT TTCCTTTATG TAATTTTCCA GAATCCTTGT CAGATTCTAA
1681 CGCTCCTCCG GCCAACTTCG CCGCTACAC CGCCGTCCTC AACCCTCACG ACCGCATCAT	3241 TCATTGCTTT ATAATTATAG TTATACTCAT GGATTTGTAG TTGAGTATGA AAATATTTTT
1741 GGGGCTAGAT CTCCGCTCCG GCGGCGCTCT CACCCACGGC TACTACACCT CCGGCGGAAA	3301 TAATGCATTT TATGACTTGC CAATTGATTG ACAACATGCA TCAATCCGCG GTTATGACTC
1801 GAAGATCTCC GCCACCTCCA TTTACTTCGA GAGTCTCCCT TACAAGGTAA ACTCCACCAC	3361 TCTTAAGAGA GTCATGAATT CGAGCTTCCA GAAGGTAATT ATCCAAGATG TAGCATCAAG
1861 CGGCTACATC GACTACGACC GCTTGAAGA AAAAGCCCTA GACTTCAGGC CAAAATCAT	3421 AATCCAATGT TTACGGGAAA AACTATGGAA GTATTATGTG AGCTCAGCAA GAAGCAGATC
1921 AATCTGCGGT GGCAGCGCGT ACCCTCGCGA TTGGGACTAC AAACGTTTCA GGAAGTCGC	3481 AATATGCGGC ACATATGCAA CCTATGTTCA AAAATGAAGA ATGTACAGAT ACAAGATCCT
1981 TGATAAGTGC GGAGCATTGC TTCTCTGCGA CATGGCGCAC ACTAGCGGCC TTGTGGCCGC	3541 ATACTGCCAG AATACGAAGA AGAATACGTA GAAATTGAAA AAGAAGAACC AGGCGAAGAA
2041 GCAGGAAGTG AACAGCCCTT TCGAGTATTG CGACATTGTG ACCACCACGA CTCACAAGAG	3601 AAGAATCTTG AAGACGTAAG CACTGACGAC AACAAATGAAA AAGAAGAAGT AAGGTCGGTG
2101 CTTGCGGGGC CCACGTGCGG GGATGATCTT TTACCGGAAG GGCCCCAAGC CGCCGAAGAA	3661 ATTGTAAGAA AGACATAGAG GACACATGTA AGGTGGAAAA TGTAAGGGCG GAAAGTAACC
2161 GGGGAGCCG GAGAAGCGCG TTTATGATTT CGAGGACAAG ATTAACCTTC CGGTGTTCCC	3721 TTATCACAAA GGAATCTTAT CCCCCTACTC TTATCCTTTT ATATTTTTCG GTGTCATTTT
2221 TTCGCTGCAG GGTGGGCCCC ACAACCACCA GATCGGTGCT CTCGCCGTGG CGCTGAAGCA	3781 TGCCCTTGAG TTTTCCTATA TAAGGAACCA AGTTCCGCAT TTGTGAAAAA AAGAAAAAAT
2281 GGCCGCTCG CCCGGGTTTA AGGCCTACGC GAAGCAGGTT AAGCGCAAGC CCGTTGCGCT	3841 TTGTTGTAAG CTATTTTCTT TGAAGTACTG AGGATACAAC TTCAGAGAAA TTTGTAAGTT
2341 TGAAAAATAC TTGATGGGGA AAGGTACAG CTTGTGCACT GCGGAACCG AGAACATCT	3901 TGTGATCCAT GGTGAGCAAG GCGAGGAGC TGTTCCACCG GGTGGTGCCC ATCCTGGTGC
2401 TGTTTTGTGG GATCTGAGAC CTCTTGATT GACTGGGTAT AAGGTGAGAA AACTCTGTGA	3961 AGCTGGACGG CGACGTAAAC GGCCACAAGT TCAGCGTGTC CGGCGAGGGC GAGGGCGATG

Supplemental Figure S9. F-SHMT08cΔ+H134A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

4021 CCACCTACGG CAAGCTGACC CTGAAGTTCA TCTGCACCAC CGGCAAGCTG CUCGTGCUCT	5581 TAGGCCGCGA TTAAATTCCA ACATGGATGC TGATTTATAT GGGTATAAAT GGGCTCGCGA
4081 GGCCACCCCT CGTGACCACC TTCACCTACG GCGTGCAGTG CTTAGCCGCG TACCCCGACC	5641 TAATGTCGGG CAATCAGGTG CGACAATCTA TCGATTGTAT GGAAGCCCG ATGCGCCAGA
4141 ACATGAAGCA GCACGACTTC TTCAAGTCCG CCATGCCCCG AGGCTACGTC CAGGAGCGCA	5701 GTTGTTTCTG AAACATGGCA AAGGTAGCGT TGCCAATGAT GTTACAGATG AGATGGTCAG
4201 CCATCTTCTT CAAGGACGAC GGCAACTACA AGACCCGCGC CGAGGTGAAG TTCGAGGGCG	5761 ACTAACTGG CTGACGGAAT TTATGCCTCT TCCGACCATC AAGCATTTTA TCCGTACTCC
4261 ACACCCTGGT GAACCGCATC GAGCTGAAGG GCATCGACTT CAAGGAGGAC GGCAACATCC	5821 TGATGATGCA TGGTTACTCA CCACTGCGAT CCCCAGGAAA ACAGCATTTCC AGGTATTAGA
4321 TGGGGCACAA GCTGGAGTAC AACTACAACA GCCACAACGT CTATATCATG GCCGACAAGC	5881 AGAATATCCT GATTAGGTG AAAATATTGT TGATGCGCTG GCAGTGTTC TGCGCCGGTT
4381 AGAAGAACGG CATCAAGGTG AACTTCAAGA TCCGCCACAA CATCGAGGAC GGCAGCGTGC	5941 GCATTCGATT CCTGTTTGTA ATTGTCCTTT TAACAGCGAT CGCGTATTTT GTCTCGCTCA
4441 AGCTCGCCGA CCACTACCAG CAGAACACCC CCATCGGCGA CGGCCCGGTG CTGCTGCCCG	6001 GGCACAATCA CGAATGAATA ACGGTTTGGT TGATGCGAGT GATTTTGATG ACGAGCGTAA
4501 ACAACCACTA CCTGAGCACC CAGTCCGCCG TGAGCAAAGA CCCCACGAG AAGCGCGATC	6061 TGGCTGGCCT GTTGAACAAG TCTGGAAAGA AATGCATAAA CTTTGGCCAT TCTCACCGBA
4561 ACATGGTCCT GCTGGAGTTC GTGACCGCCG CCGGGATCAC TCACGGCATG GACGAGCTGT	6121 TTCAGTCGTC ACTCATGGTG ATTTCTCACT TGATAACCTT ATTTTGGACG AGGGGAAATT
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4681 GATTGAATCC TGTTGCCGGT CTTGCGATGA TTATCATATA ATTTCTGTTG AATTACGTTA	6241 CCTATGGAAC TGCCTCGGTG AGTTTTCTCC TTCATTACAG AAACGGCTTT TTCAAAAATA
4741 AGCATGTAAT AATTAACATG TAATGCATGA CGTTATTTAT GAGATGGGTT TTTATGATTA	6301 TGGTATTGAT AATCCTGATA TGAATAAATT GCAGTTTCAT TTGATGCTCG ATGAGTTTTT
4801 GAGTCCCGCA ATTATACATT TAATACGCGA TAGAAAACAA AATATAGCGC GCAAAC TAGG	6361 CTAAGAATTA ATTCATGATC CTGCATGACC AAAATCCCTT AACGTGAGTT TTCGTTCCAC
4861 ATAAATTATC GCGCGCGGTG TCATCTATGT TACTAGATCC GATGATAAGC TGTCAAACAT	6421 TGAGCGTCAG ACCCCGTAGA AAAGATCAAA GGATCTTCTT GAGATCCTTT TTTTCTGCGC
4921 GAGAATTAAT TCGTAATCAT GTCATAGCTG TTTCTGTGT GAAATTGTTA TCCGCTCACA	6481 GTAATCTGCT GCTTGCAAAC AAAAAACCA CCGCTACCAG CGGTGGTTTG TTTGCCGGAT
4981 ATTCCACACA ACATACGAGC CGGAAGCATA AAGTGTAAG CCTGGGGTGC CTAATGAGTG	6541 CAAGAGCTAC CAACTCTTTT TCCGAAGGTA ACTGGCTTCA GCAGAGCGCA GATACCAAAT
5041 AGCTAACTCA CATTAAATGC GTTGCGCTCA CTGCCCCTT TCCAGTCGGG AAACCTGTG	6601 ACTGTCCTTC TAGTGTAGCC GTAGTTAGGC CACCACTTCA AGAACTCTGT AGCACCGCCT
5101 TGCCAGCTGC ATTAATGAAT CGGCCAACGC GCGGGGAGAG GCGGTTTGCG TATTGGCTAG	6661 ACATACCTCG CTCTGCTAAT CCTGTTACCA GTGGCTGCTG CCAGTGGCGA TAAGTCGTGT
5161 AGCAATTTCG CGTTAATTCA GTACATTAAA AACGTCCGCA ATGTGTTATT AAGTTGTCTA	6721 CTTACCGGGT TGGACTCAAG ACGATAGTTA CCGGATAAGG CGCAGCGGTC GGGCTGAACG
5221 AGCGTCAATT TGTTTACACC ACAATATATC CTGCCACCAG CCAGCCAACA GCTCCCCGAC	6781 GGGGGTTCTG GCACACAGCC CAGCTTGAG CGAACGACCT ACACCGAACT GAGATACCTA
5281 CGGCAGCTCG GCACAAAATC ACCACTCGAT ACAGGCAGCC CATCAGTCCG GGACGGCGTC	6841 CAGCGTGAGC TATGAGAAAAG CGCCACGCTT CCCGAAGGGA GAAAGGCGGA CAGGTATCCG
5341 AGCGGGAGAG CCGTTGTAAG GCGGCAGACT TTGCTCATGT TACCGATGCT ATTGCGAAGA	6901 GTAAGCGGCA GGGTCGGAAC AGGAGAGCGC ACGAGGGAGC TTCCAGGGGG AAACGCCTGG
5401 ACGGCACTA AGCTGCCGGG TTTGAAACAC GGATGATCTC GCGGAGGGTA GCATGTTGAT	6961 TATCTTTATA GTCCTGTGCG GTTTCGCCAC CTCTGACTTG AGCGTCGATT TTTGTGATGC
5461 TGTAACGATG ACAGAGCGTT GCTGCCTGTG ATCCAGATCA TGAACAATAA AACTGTCTGC	7021 TCGTCAGGGG GGCGGAGCCT ATGGAAAAAC GCCAGCAACG CGGCCTTTTT ACGGTTCTCTG
5521 TTACATAAAC AGTAATACAA GGGGTGTTAT GAGCCATATT CAACGGGAAA CGTCTTGCTC	7081 GCCTTTTGCT GGCCTTTTGC TCACATGTTT TTTCTGCGT TATCCCTGA TTCTGTGGAT

Supplemental Figure S9. F-SHMT08cΔ+H134A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

7141 AACCGTATTA CCGCCTTTGA GTGAGCTGAT ACCGCTCGCC GCAGCCGAAC GACCGAGCGC	8701 TCGTAGCGGA TCACCTCGCC AGCTCGTCGG TCACGCTTCG ACAGACGGAA AACGGCCACG
7201 AGCGAGTCAG TGAGCGAGGA AGCGGAAGAG CGCCTGATGC GGTATTTTCT CTTTACGCAT	8761 TCCATGATGC TGCAGCTATC GCGGGTGCCC ACGTCATAGA GCATCGGAAC GAAAAATCT
7261 CTGTGCGGTA TTTCACACCG CATATGGTGC ACTCTCAGTA CAATCTGCTC TGATGCCGCA	8821 GGTGTGCTCGT CGCCCTTGGG CGGCTTCCTA ATCGACGGCG CACCGGTGTC CGGCGGTGTC
7321 TAGTTAAGCC AGTATACACT CCGCTATCGC TACGTGACTG GGTTCATGGCT GCGCCCCGAC	8881 CGGGATTCTT TGGCGATTTC ATCAGCGGCC GCTTGCCACG ATTCACCGGG GCGTGTCTCT
7381 ACCCGCCAAC ACCCGCTGAC GCGCCCTGAC GGGCTTGTCT GCTCCCGGCA TCCGCTTACA	8941 GCCTCGATGC GTTGCCCGTG GCGGCGCTGC GCGGCCTTCA ACTTCTCCAC CAGGTCATCA
7441 GACAAGCTGT GACCGTCTCC GGGAGCTGCA TGTGTCAGAG GTTTTCACCG TCATCACCGA	9001 CCCAGCGCCG CGCCGATTTC TACCGGGCCG GATGTTTTGC GACCGTCACG CCGATTCTCT
7501 AACGCGCGAG GCAGGGTGCC TTGATGTGGG CGCCGCGGT CGAGTGCGCA CGGCGCGGCT	9061 GGGCTTGGGG GTTCCAGTGC CATTGCAGGG CCGCGAGACA ACCAGCGCCG TTACGCCTGG
7561 TGTCCGCGCC CTGGTAGATT GCCTGGCCGT AGGCCAGCCA TTTTGTAGCG GCCAGCGGCC	9121 CCAACCGCCC GTTCTCTCCAC ACATGGGGCA TTCCACGGCG TCGGTGCCTG GTTGTCTTGG
7621 GCGATAGGCC GACGCGAAGC GCGGGGGCGT AGGGAGCGCA GCGACCGAAG GGTAGGCGCT	9181 ATTTTCCATG CCGCCTCCTT TAGCCGCTAA AATTCATCTA CTCATTATT CATTGTGCTA
7681 TTTTGCAGCT CTTGCGGTGT GCGCTGGCCA GACAGTTATG CACAGGCCAG GCGGGTTTTA	9241 TTTACTCTGG TAGTGCAGCG ATGTATTGAG ATAGCAGCTC GGTAATGGTC TTGCCTTGGC
7741 AGAGTTTTAA TAAGTTTTAA AGAGTTTTAG GCGGAAAAAT CGCCTTTTTT CTCTTTTATA	9301 GTACCGCGTA CATCTTCAGC TTGGTGTGAT CCTCCGCCGG CAACTGAAAG TTGACCGCT
7801 TCAGTCACTT ACATGTGTGA CCGGTTCCCA ATGTACGGCT TTGGGTTCCC AATGTACGGG	9361 TCATGGCTGG CGTGTCCTGCC AGGCTGGCCA ACGTTGCAGC CTTGCTGCTG CGTGCGCTCG
7861 TTCCGGTTCC CAATGTACGG CTTTGGGTTC CCAATGTACG TGCTATCCAC AGGAAAGAGA	9421 GACGGCCGGC ACTTAGCGTG TTTGTGCTTT TGCTCATTTT CTCTTTACCT CATTAACTCA
7921 CCTTTTCGAC CTTTTTCCCC TGCTAGGGCA ATTTGCCCTA GCATCTGCTC CGTACATTAG	9481 AATGAGTTTT GATTTAATTT CAGCGGCCAG CGCCTGGACC TCGCGGGCAG CGTCGCCCTC
7981 GAACCGGCGG ATGCTTCGCC CTCGATCAGG TTGCGGTAGC GCATGACTAG GATCGGGCCA	9541 GGGTTCTGAT TCAAGAACGG TTGTGCCGGC GCGGCGAGTG CCTGGGTAGC TCACGCGCTG
8041 GCCTGCCCCG CCTCTCCTT CAAATCGTAC TCCGGCAGGT CATTTGACCC GATCAGCTTG	9601 CGTGATACGG GACTCAAGAA TGGGCAGCTC GTACCCGGCC AGCGCCTCGG CAACCTCACC
8101 CGCACGGTGA AACAGAACTT CTTGAACCTC CCGGCGCTGC CACTGCGTTC GTAGATCGTC	9661 GCCGATGCGC GTGCCCTTGA TCGCCCGCGA CACGACAAAG GCCGCTTGTA GCCTTCCATC
8161 TTGAACAACC ATCTGGCTTC TGCCTTGCTT GCGGCGCGGC GTGCCAGGCG GTAGAGAAAA	9721 CGTGACCTCA ATGCGCTGCT TAACCAGCTC CACCAGGTCG GCGGTGGCCC ATATGTCGTA
8221 CGGCCGATGC CGGGATCGAT CAAAAAGTAA TCGGGGTGAA CCGTCAGCAC GTCCGGGTTC	9781 AGGGCTTGCC TGCACCGGAA TCAGCACGAA GTCGCTGCC TTGATCGCGG ACACAGCCAA
8281 TTGCCCTCTG TGATCTCGCG GTACATCCAA TCAGCTAGCT CGATCTCGAT GTAATCCGGC	9841 GTCCCGCGCC TGGGGCGCTC CGTCGATCAC TACGAAGTCG CGCCGGCCGA TGGCCTTCAC
8341 CGCCCGGTTT CGCTCTTTAC GATCTTGTAG CGGCTAATCA AGGCTTCACC CTCGGATACC	9901 GTCGCGGTCA ATCGTCGGGC GGTGATGCC GACAACGGTT AGCGGTTGAT CTTCCCGCAC
8401 GTCACCAGGC GGCCGTTCTT GGCCTTCTTC GTACGCTGCA TGGCAACGTG CGTGGTGTTC	9961 GGCCGCCCAA TCGCGGGCAC TGCCCTGGGG ATCGGAATCG ACTAACAGAA CATCGGCCCC
8461 AACCGAATGC AGGTTTCTAC CAGGTCGTCT TTCTGTCTTC CGCCATCGGC TCGCCGGCAG	10021 GGCGAGTTGC AGGGCGCGGG CTAGATGGGT TGCGATGGTC GTCTTGCTTG ACCCGCCTTT
8521 AACTTGAGTA CGTCCGCAAC GTGTGGACGG AACACGCGGC CGGGCTTGTC TCCCTTCCCT	10081 CTGGTTAAGT ACAGCGATAA CCTTCATGCG TTCCCTTTCG GTATTTGTTT ATTTACTCAT
8581 TCCCGGTATC GGTTCATGGA TTCGGTTAGA TGGGAAACCG CCATCAGTAC CAGGTCGTAA	10141 CGCATCATAT ACGCAGCGAC CGCATGACGC AAGCTGTTTT ACTCAAATAC ACATCACCTT
8641 TCCACACAC TGGCCATGCC GGCCGGCCCT GCGGAAACCT CTACGTGCCC GTCTGGAAGC	10201 TTTAGACGGC GCGCTCGGT TTCTTCAGCG GCCAAGCTGG CCGGCCAGGC CGCCAGCTTG

Supplemental Figure S9. F-SHMT08cΔ+H134A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

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10261 GCATCAGACA AACCGGCCAG GATTTTCATGC AGCCGCACGG TTGAGACGTG CGCGGGCGGC
10321 TCGAACACGT ACCCGGCCGC GATCATCTCC GCCTCGATCT CTTCCGTAAT GAAAAACGGT
10381 TCGTCCTGGC CGTCCTGGTG CGGTTTCATG CTTGTTCTC TTGGCGTTCA TTCTCGGCGG
10441 CCGCCAGGGC GTCGGCCTCG GTCAATGCGT CCTCACGGAA GGCACCGCGC CGCCTGGCCT
10501 CGGTGGGCGT CACTTCCTCG CTGCGCTCAA GTGCGCGGTA CAGGGTCGAG CGATGCACGC
10561 CAAGCAGTGC AGCCGCCTCT TTCACGGTGC GGCCTTCCTG GTCGATCAGC TCGCGGGCGT
10621 GCGCGATCTG TGCCGGGGTG AGGGTAGGGC GGGGGCCAAA CTTACGCCT CGGGCCTTGG
10681 CGGCCTCGCG CCCGCTCCGG GTGCGGTCGA TGATTAGGGA ACGCTCGAAC TCGGCAATGC
10741 CGGCGAACAC GGTCAACACC ATGCGGCCGG CCGGCGTGGT GGTGTCGGCC CACGGCTCTG
10801 CCAGGCTACG CAGGCCCCGCG CCGGCCTCCT GGATGCGCTC GGCAATGTCC AGTAGGTCGC
10861 GGGTGCTGCG GGCCAGGCGG TCTAGCCTGG TCACTGTCAC AACGTCGCCA GGGCGTAGGT
10921 GGTCAAGCAT CCTGGCCAGC TCCGGGCGGT CGCGCCTGGT GCCGGTGATC TTCTCGGAAA
10981 ACAGCTTGGT GCAGCCGGCC GCGTGCACTT CGGCCCCTTG GTTGGTCAAG TCCTGGTCGT
11041 CGGTGCTGAC GCGGGCATAG CCCAGCAGGC CAGCGGCGGC GCTCTTGTTT ATGGCGTAAT
11101 GTCTCCGTT CTAGTCGCAA GTATTCTACT TTATGCGACT AAAACACGCG ACAAGAAAAC
11161 GCCAGGAAAA GGGCAGGGCG GCAGCCTGTC GCGTAACTTA GGAATTGTGC GACATGTCGT
11221 TTTCAGAAGA CGGCTGCACT GAACGTCAGA AGCCGACTGC ACTATAGCAG CGGAGGGGTT
11281 GGATCAAAGT ACT

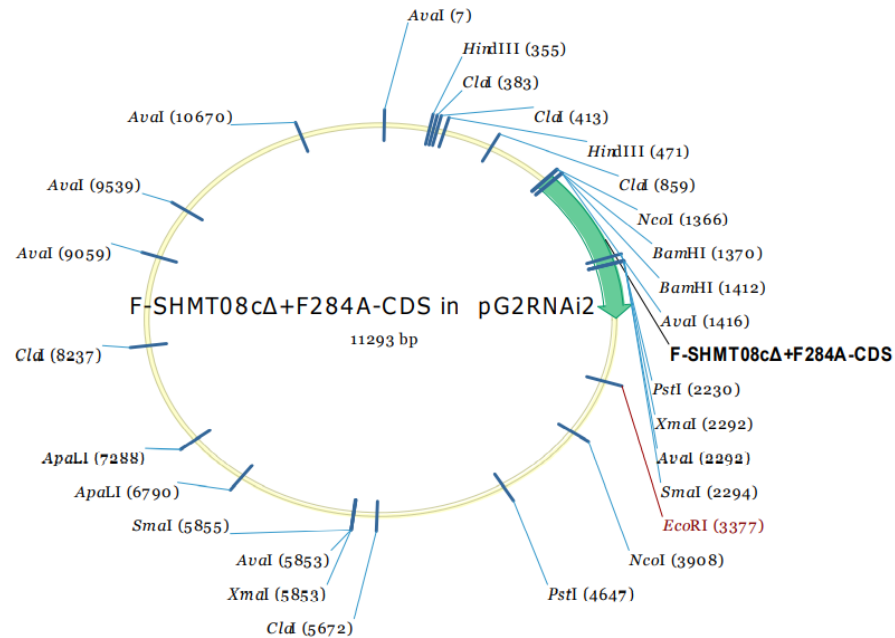
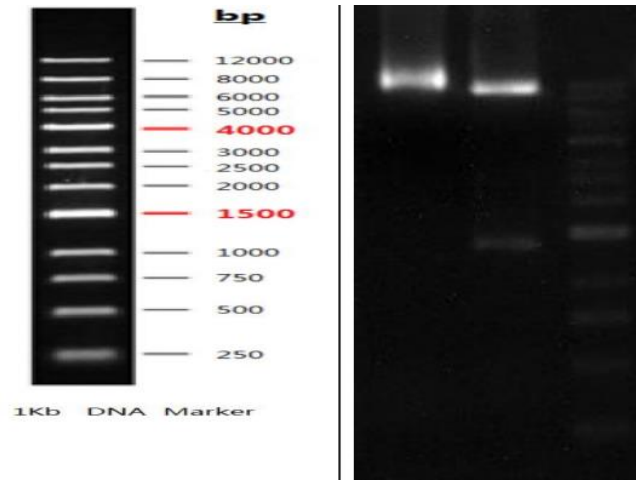
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Gene Name F-SHMT08cΔ+F284A-CDS

Cloning Vector pG2RNAi2

Length (bp) 1430

Cloning Sites Ascl-AvrII



Supplemental Figure S10. F-SHMT08cΔ+F284A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Detailed Sequence of the Whole Construct:

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1  TTGATCCCGA GGGGAACCCT GTGGTTGGCA TGCACATACA AATGGACGAA CGGATAAACC
61  TTTTCACGCC CTTTTAAATA TCCGTTATTC TAATAAACGC TCTTTTCTCT TAGGTTTACC
121 CGCCAATATA TCCTGTCAAA CACTGATAGT TTAAACTGAA GGCGGGAAAC GACAATCTGA
181 TCCAAGCTCA AGCTCATTCG CCATTCAGGC TGCGCAACTG TTGGGAAGGG CGATCGGTGC
241 GGGCCTCTTC GCTATTACGC CAGCTGGCGA AAGGGGGATG TGCTGCAAGG CGATTAAGTT
301 GGGTAACGCC AGGGTTTTCC CAGTCACGAC GTTGTAAAAC GACGGCCAGT GCCAAGCTTA
361 TTACCCTGTT ATCCCTAGAT ATCGATTTTG GCTACCTTAA GGTAGCCAAA ATCGATCACT
421 AGTGCGGCCG CGGGCCCAAT ATAACAACGA CGTCGTAACA GATAAAGCGA AGCTTGAAGG
481 TGCATGTGAC TCCGTCAAGA TTACGAAACC GCCAACTACC ACGCAAATTG CAATTCTCAA
541 TTTCTAGAA GGACTCTCCG AAAATGCATC CAATACCAA TATTACCCGT GTCATAGGCA
601 CCAAGTGACA CCATACATGA ACACGCGTCA CAATATGACT GGAGAAGGGT TCCACACCTT
661 ATGCTATAAA ACGCCCCACA CCCCTCCTCC TTCCTTCGCA GTTCAATTCC AATATATTCC
721 ATTCTCTCTG TGTATTTCCC TACCTCTCCC TTCAAGGTTA GTCGATTTCT TCTGTTTTTC
781 TTCTTCGTTC TTTCCATGAA TTGTGTATGT TCTTTGATCA ATACGATGTT GATTTGATTG
841 TGTTTTGTTT GGTTTCATCG ATCTTCAATT TTCATAATCA GATTCAGCTT TTATTATCTT
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901 TACAACAACG TCCTTAATTT GATGATTCTT TAATCGTAGA TTTGCTCTAA TTAGAGCTTT
 961 TTCATGTCAG ATCCCTTTAC AACAAAGCCTT AATTGTTGAT TCATTAATCG TAGATTAGGG
 1021 CTTTTTTCAT TGATTACTTC AGATCCGTTA AACGTAACCA TAGATCAGGG CTTTTTCATG
 1081 AATTACTTCA GATCCGTTAA ACAACAGCCT TATTTTTTAT ACTTCTGTGG TTTTTCAGA
 1141 AATTGTTTCA ATCCGTTGAC AAAAAGCCTT ATTCGTTGAT TCTATATCGT TTTTCGAGAG
 1201 ATATTGCTCA GATCTGTTAG CAACTGCCTT GTTTGTTGAT TCTATTGCCG TGGATTAGGG
 1261 TTTTTTTTCA CGAGATTGCT TCAGATCCGT ACTTAAGATT ACGTAATGGA TTTTGATTCT
 1321 GATTTATCTG TGATTGTTGA CTCGACACGG GCCGCACCGG CGCGCCATGG ATCCAGTAAG
 1381 CGTGTGGGGT AACACGCCCT TGGCGACGGT GGATCCCGAG ATCCATGACC TCATCGAGAA
 1441 GGAGAAGCGC CGTCAATGCC GCGGAATCGA GCTCATCGCC TCCGAGAACT TCACCTCCTT
 1501 CGCCGTCATC GAGGCCCTCG GCAGCGCTCT CACGAACAAA TACTCCGAGG GCATGCCGGG
 1561 CAACCGCTAC TACGGCGGCA ATGAATACAT CGACCAGATC GAAAACCTCT GCCGCTCACG
 1621 CGCCCTCCAA GCCTTCCACC TCGACGCCCA ATCCTGGGGC GTCAACGTCC AGCCCTACTC
 1681 CGGCTCCCCG GCCAACTTCG CCGCCTACAC CGCCGCTCCT AACCCCCACG ACCGCATCAT
 1741 GGGGCTAGAT CTCCGCTCCG GCGGCCACCT CACCCACGGC TACTACACCT CCGGCGGAAA
 1801 GAAGATCTCC GCCACCTCCA TTTACTTCGA GAGTCTCCCT TACAAGGTAA ACTCCACCAC
 1861 CGGCTACATC GACTACGACC GCTTGAAGA AAAAGCCCTA GACTTCAGGC CAAAACTCAT
 1921 AATCTGCGGT GGCAGCGCGT ACCCTCGCGA TTGGGACTAC AAACGTTTCA GGAAGTCGC
 1981 TGATAAGTGC GGAGCATTGC TTCTCTCGCA CATGGCGCAC ACTAGCGGCC TTGTGGCCGC
 2041 GCAGGAAGTG AACAGCCCTT TCGAGTATTG CGACATTGTG ACCACCACGA CTCACAAGAG
 2101 CTTGCGGGGC CCACGTGCGG GGATGATCTT TTACCGGAAG GGCCCCAAGC CGCCGAAGAA
 2161 GGGGCAGCCG GAGAACGCGG TTTATGATTT CGAGGACAAG ATTAACCTTCG CGGTGGCTCC
 2221 TTCGCTGCAG GGTGGGCCCC ACAACCACCA GATCGGTGCT CTCGCCGTGG CGCTGAAGCA
 2281 GGCCGCGTCG CCCGGGTTTA AGGCCTACGC GAAGCAGGTT AAGGCGAAGC CCGTTGCGCT
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 2401 TGTTTGTGGG GATCTGAGAC CTCTGGATT GACTGGGTAT AAGTGGAGA AACTCTGTGA

2461 TCTCTGTAAC ATTACTGTTA ACAAGAACGC TGTTTTTGGT GATAGCAGTG CCTTGGCCCC
 2521 TGGTGGAGTG CGAATTGGTG CCCCTGCCAT GACTTCTAGG GGTGTGGTTG AAAAAGACTT
 2581 TGAGCAGATT GGTGAGTTCC TTCACCGTGC TGTGACTCTC AACTGGAGA TCCAGAAGGA
 2641 GCATGGCAAA CTCTCAAGG ATTTCAACAA GGGTCTCGTC AACAACAAGG CTATTGAAGA
 2701 TCTCAAAGCT GATGTTGAGA AGTTCTCTGC CTTGTTTGAC ATGCCTGGCT TCCTGGTATC
 2761 TGAATGAAG TACAAGGATT AGCCTAGGTT CGAGTATTAT GGCATTGGGA AAAGTGTTTT
 2821 TCTGTACCA TTTGTTGTGC TTGTAATTTA CTGTGTTTTT TATTCGGTTT TCGCTATCGA
 2881 ACTGTGAAAT GGAAATGGAT GGAGAAGAGT TAATGAATGA TATGGTCCTT TTGTTTCATC
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 3001 AGATATGCAA ACATTTTGTT TTGAGTAAAA ATGTGTCAAA TCGTGGCCTC TAATGACCGA
 3061 AGTTAATATG AGGAGTAAAA CACTTGAGT TGTACCATTA TGCTTATTCA CTAGGCAACA
 3121 AATATATTTT CAGACCTAGA AAAGCTGCAA ATGTTACTGA ATACAAGTAT GTCCTCTTGT
 3181 GTTTTAGACA TTTATGAACT TTCCCTTATG TAATTTTCCA GAATCCTTGT CAGATTCTAA
 3241 TCATTGCTTT ATAATTATAG TTATACTCAT GGATTTGTAG TTGAGTATGA AAATATTTTT
 3301 TAATGCATTT TATGACTTGC CAATTGATTG ACAACATGCA TCAATCCGCG GTTATGACTC
 3361 TCTTAAGAGA GTCATGAATT CGAGCTTCCA GAAGGTAATT ATCCAAGATG TAGCATCAAG
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 3481 AATATGCGGC ACATATGCAA CCTATGTTCA AAAATGAAGA ATGTACAGAT ACAAGATCCT
 3541 ATACTGCCAG AATACGAAGA AGAATACGTA GAAATTGAAA AAGAAGAACC AGGCGAAGAA
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 3661 ATTGTGAAAG AGACATAGAG GACACATGTA AGGTGGAAAA TGTAAGGGCG GAAAGTAACC
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 3781 TGCCCTTGAG TTTTCCTATA TAAGGAACCA AGTTCGGCAT TTGTGAAAAC AAGAAAAAAT
 3841 TTGGTGTAAG CTATTTTCTT TGAAGTACTG AGGATACAAC TTCAGAGAAA TTTGTAAGTT
 3901 TGTGATCCAT GGTGAGCAAG GCGGAGGAGC TGTTACCCGG GGTGGTGCCC ATCCTGGTCG
 3961 AGCTGGACGG CGACGTAAAC GGCCACAAGT TCAGCGTGTC CGGCGAGGGC GAGGGCGATG

Supplemental Figure S10. F-SHMT08cΔ+F284A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

4021 CCACCTACGG CAAGCTGACC CTGAAGTTCA TCTGCACCAC CGGCAAGCTG CUCGTGCUCT	5581 TAGGCCGCGA TTAAATTCCA ACATGGATGC TGATTTATAT GGGTATAAAT GGGCTCGCGA
4081 GGCCACCCCT CGTGACCACC TTCACCTACG GCGTGCAGTG CTTAGCCGCG TACCCCGACC	5641 TAATGTCGGG CAATCAGGTG CGACAATCTA TCGATTGTAT GGAAGCCCG ATGCGCCAGA
4141 ACATGAAGCA GCACGACTTC TTCAAGTCCG CCATGCCCCG AGGCTACGTC CAGGAGCGCA	5701 GTTGTTTCTG AAACATGGCA AAGGTAGCGT TGCCAATGAT GTTACAGATG AGATGGTCAG
4201 CCATCTTCTT CAAGGACGAC GGCAACTACA AGACCCGCGC CGAGGTGAAG TTCGAGGGCG	5761 ACTAACTGG CTGACGGAAT TTATGCCTCT TCCGACCATC AAGCATTTTA TCCGTACTCC
4261 ACACCCTGGT GAACCGCATC GAGCTGAAGG GCATCGACTT CAAGGAGGAC GGCAACATCC	5821 TGATGATGCA TGGTTACTCA CCACTGCGAT CCCCAGGAAA ACAGCATTCC AGGTATTAGA
4321 TGGGGCACA GCTGGAGTAC AACTACAACA GCCACAACGT CTATATCATG GCCGACAAGC	5881 AGAATATCCT GATTCAGGTG AAAATATTGT TGATGCGCTG GCAGTGTTC TGCGCCGGTT
4381 AGAAGAACGG CATCAAGGTG AACTTCAAGA TCCGCCACAA CATCGAGGAC GGCAGCGTGC	5941 GCATTCGATT CCTGTTTGTA ATTGTCCTTT TAACAGCGAT CGCGTATTT GTCTCGCTCA
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4681 GATTGAATCC TGTTGCCGGT CTTGCGATGA TTATCATATA ATTTCTGTTG AATTACGTTA	6241 CCTATGGAAC TGCCTCGGTG AGTTTTCTCC TTCATTACAG AACCGCTTT TTCAAAAATA
4741 AGCATGTAAT AATTAACATG TAATGCATGA CGTTATTTAT GAGATGGGTT TTTATGATTA	6301 TGGTATTGAT AATCCTGATA TGAATAAATT GCAGTTTCAT TTGATGCTCG ATGAGTTTTT
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5401 ACGGCACTA AGCTGCCGGG TTTGAAACAC GGATGATCTC GCGGAGGGTA GCATGTTGAT	6961 TATCTTTATA GTCCTGTGCG GTTTCGCCAC CTCTGACTTG AGCGTCGATT TTTGTGATGC
5461 TGTAACGATG ACAGAGCGTT GCTGCCTGTG ATCCAGATCA TGAACAATAA AACTGTCTGC	7021 TCGTCAGGGG GGCGGAGCCT ATGGAAAAAC GCCAGCAACG CGGCCTTTTT ACGGTTCTCTG
5521 TTACATAAAC AGTAATACAA GGGGTGTTAT GAGCCATATT CAACGGGAAA CGTCTTGCTC	7081 GCCTTTTGCT GGCCTTTTGC TCACATGTTT TTTCTGCGT TATCCCTGA TTCTGTGGAT

Supplemental Figure S10. F-SHMT08cΔ+F284A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

7141 AACCGTATTA CCGCCTTTGA GTGAGCTGAT ACCGCTCGCC GCAGCCGAAC GACCGAGCGC	8701 TCGTAGCGGA TCACCTCGCC AGCTCGTCGG TCACGCTTCG ACAGACGGAA AACGGCCACG
7201 AGCGAGTCAG TGAGCGAGGA AGCGGAAGAG CGCCTGATGC GGTATTTTCT CTTTACGCAT	8761 TCCATGATGC TGCAGCTATC GCGGGTGCCC ACGTCATAGA GCATCGGAAC GAAAAATCT
7261 CTGTGCGGTA TTTCACACCG CATATGGTGC ACTCTCAGTA CAATCTGCTC TGATGCCGCA	8821 GGTGTGCTCGT CGCCCTTGGG CGGCTTCCTA ATCGACGGCG CACCGGTGTC CGCGGGTTGC
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7381 ACCCGCCAAC ACCCGCTGAC GCGCCCTGAC GGGCTTGTCT GCTCCCGGCA TCCGCTTACA	8941 GCCTCGATGC GTTGCCCGTG GCGGCGCTGC GCGGCCTTCA ACTTCTCCAC CAGGTCATCA
7441 GACAAGCTGT GACCGTCTCC GGGAGCTGCA TGTGTCAGAG GTTTTCACCG TCATCACCGA	9001 CCCAGCGCCG CGCCGATTTC TACCGGGCCG GATGGTTTGC GACCGTCACG CCGATTCTCT
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7561 TGTCCGCGCC CTGGTAGATT GCCTGGCCGT AGGCCAGCCA TTTTGTAGCG GCCAGCGGCC	9121 CCAACCGCCC GTTCTCTCCAC ACATGGGGCA TTCCACGGCG TCGGTGCCTG GTTGTCTTGG
7621 GCGATAGGCC GACGCGAAGC GCGGGGGCGT AGGGAGCGCA GCGACCGAAG GGTAGGCGCT	9181 ATTTTCCATG CCGCCTCCTT TAGCCGCTAA AATTCATCTA CTCATTATT CATTTGCTCA
7681 TTTTGCAGCT CTTGCGGTGT GCGCTGGCCA GACAGTTATG CACAGGCCAG GCGGGTTTTA	9241 TTTACTCTGG TAGTGCAGCG ATGTATTTCAG ATAGCAGCTC GGTAATGGTC TTGCCTTGGC
7741 AGAGTTTTAA TAAGTTTTAA AGAGTTTTAG GCGGAAAAAT CGCCTTTTTT CTCTTTTATA	9301 GTACCGCGTA CATCTTCAGC TTGGTGTGAT CCTCCGCCGG CAACTGAAAG TTGACCCGCT
7801 TCAGTCACTT ACATGTGTGA CCGGTTCCCA ATGTACGGCT TTGGGTTCCC AATGTACGGG	9361 TCATGGCTGG CGTGTCCTGCC AGGCTGGCCA ACGTTGCAGC CTTGCTGCTG CGTGCGCTCG
7861 TTCCGGTTCC CAATGTACGG CTTTGGGTTC CCAATGTACG TGCTATCCAC AGGAAAGAGA	9421 GACGGCCGGC ACTTAGCGTG TTTGTGCTTT TGCTCATTTT CTCTTTACCT CATTAACTCA
7921 CCTTTTCGAC CTTTTTCCCC TGCTAGGGCA ATTTGCCCTA GCATCTGCTC CGTACATTAG	9481 AATGAGTTTT GATTTAATTT CAGCGGCCAG CGCCTGGACC TCGCGGGCAG CGTCGCCCTC
7981 GAACCGGCGG ATGCTTCGCC CTCGATCAGG TTGCGGTAGC GCATGACTAG GATCGGGCCA	9541 GGGTTCTGAT TCAAGAACGG TTGTGCCGGC GCGGCGAGTG CCTGGGTAGC TCACGCGCTG
8041 GCCTGCCCCG CCTCTCCTT CAAATCGTAC TCCGGCAGGT CATTTGACCC GATCAGCTTG	9601 CGTGATACGG GACTCAAGAA TGGGCAGCTC GTACCCGGCC AGCGCCTCGG CAACCTCACC
8101 CGCACGGTGA AACAGAACTT CTTGAACCTC CCGGCGCTGC CACTGCGTTC GTAGATCGTC	9661 GCCGATGCGC GTGCCCTTGA TCGCCCGCGA CACGACAAAG GCCGCTTGTA GCCTTCCATC
8161 TTGAACAACC ATCTGGCTTC TGCCTTGCTT GCGGCGCGGC GTGCCAGGCG GTAGAGAAAA	9721 CGTGACCTCA ATGCGCTGCT TAACCAGCTC CACCAGGTCG GCGGTGGCCC ATATGTCGTA
8221 CGGCCGATGC CGGGATCGAT CAAAAAGTAA TCGGGGTGAA CCGTCAGCAC GTCCGGGTTC	9781 AGGGCTTGCC TGCACCGGAA TCAGCACGAA GTCGCTGCC TTGATCGCGG ACACAGCCAA
8281 TTGCCCTTCTG TGATCTCGCG GTACATCCAA TCAGCTAGCT CGATCTCGAT GTAATCCGGC	9841 GTCCCGCGCC TGGGGCGCTC CGTCGATCAC TACGAAGTCG CGCCGGCCGA TGGCCTTCAC
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8401 GTCACCAGGC GGCCGTTCTT GGCCTTCTTC GTACGCTGCA TGGCAACGTG CGTGGTGTTC	9961 GGCCGCCCAA TCGCGGGCAC TGCCCTGGGG ATCGGAATCG ACTAACAGAA CATCGGCCCC
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8641 TCCACACAC TGGCCATGCC GGCCGGCCCT GCGGAAACCT CTACGTGCCC GTCTGGAAGC	10201 TTTAGACGGC GCGCTCGGT TTCTTCAGCG GCCAAGCTGG CCGGCCAGGC CGCCAGCTTG

Supplemental Figure S10. F-SHMT08cΔ+F284A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.


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10261 GCATCAGACA AACCGGCCAG GATTTTCATGC AGCCGCACGG TTGAGACGTG CGCGGGCGGC
10321 TCGAACACGT ACCCGGCCGC GATCATCTCC GCCTCGATCT CTTCCGTAAT GAAAAACGGT
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10501 CGGTGGGCGT CACTTCCTCG CTGCGCTCAA GTGCGCGGTA CAGGGTCGAG CGATGCACGC
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10621 GCGCGATCTG TGCCGGGGTG AGGGTAGGGC GGGGGCCAAA CTTACGCCT CGGGCCTTGG
10681 CGGCCTCGCG CCCGCTCCGG GTGCGGTCGA TGATTAGGGA ACGCTCGAAC TCGGCAATGC
10741 CGGCGAACAC GGTCAACACC ATGCGGCCGG CCGGCGTGGT GGTGTCGGCC CACGGCTCTG
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10861 GGGTGCTGCG GGCCAGGCGG TCTAGCCTGG TCACTGTAC AACGTCGCA GGGCGTAGGT
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11101 GTCTCCGTT CTAGTCGCAA GTATTCTACT TTATGCGACT AAAACACGCG ACAAGAAAA
11161 GCCAGGAAAA GGGCAGGGCG GCAGCCTGTC GCGTAACTTA GGAATTGTGC GACATGTCGT
11221 TTTCAGAAGA CGGCTGCACT GAACGTCAGA AGCCGACTGC ACTATAGCAG CGGAGGGGTT
11281 GGATCAAAGT ACT

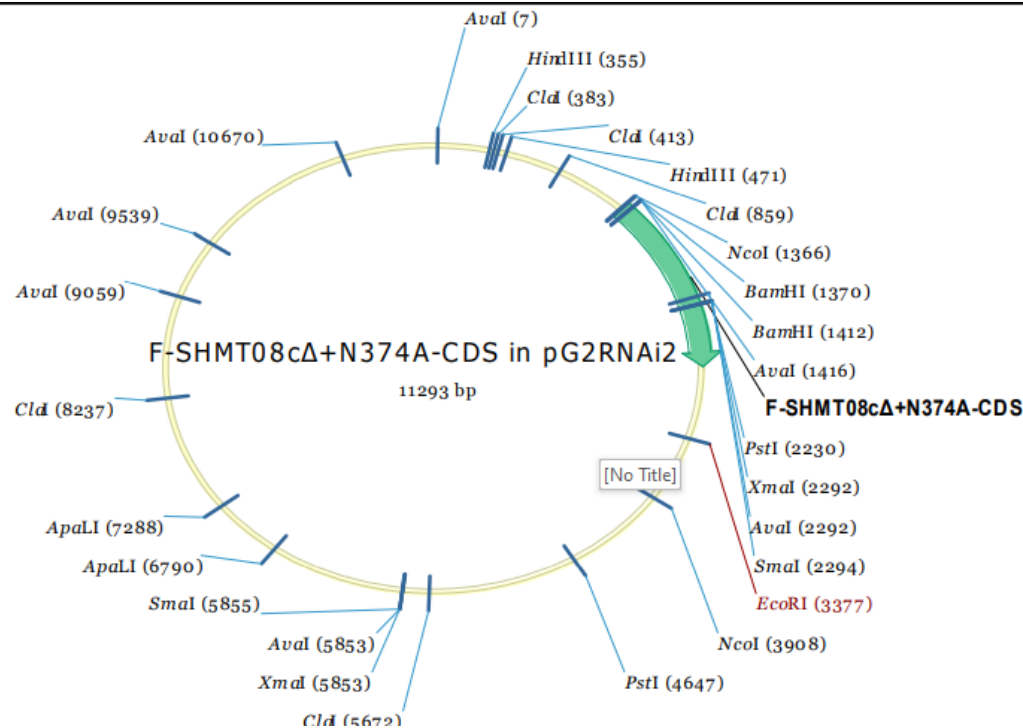
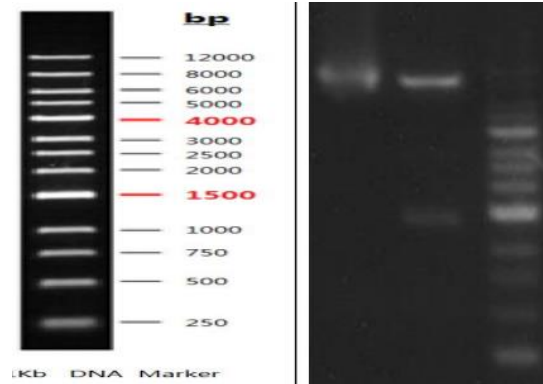
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Gene Name F-SHMT08cΔ+N374A-CDS

Cloning Vector pG2RNAi2

Length (bp) 1430

Cloning Sites Ascl-AvrII



Supplemental Figure S11. F-SHMT08cΔ+N374A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

Detailed Sequence of the Whole Construct:

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1  TTGATCCCGA GGGGAACCCT GTGGTTGGCA TGCACATACA AATGGACGAA CGGATAAACC
61  TTTTCACGCC CTTTTAAATA TCCGTTATTC TAATAAACGC TCTTTTCTCT TAGGTTTACC
121 CGCCAATATA TCCTGTCAAA CACTGATAGT TTAAACTGAA GGCGGGAAAC GACAATCTGA
181 TCCAAGCTCA AGCTCATTCG CCATTCAGGC TGCGCAACTG TTGGGAAGGG CGATCGGTGC
241 GGGCCTCTTC GCTATTACGC CAGCTGGCGA AAGGGGGATG TGCTGCAAGG CGATTAAGTT
301 GGGTAACGCC AGGGTTTTCC CAGTCACGAC GTTGTAAAAC GACGGCCAGT GCCAAGCTTA
361 TTACCCTGTT ATCCCTAGAT ATCGATTTTG GCTACCTTAA GGTAGCCAAA ATCGATCACT
421 AGTGCGGCCG CGGGCCCAAT ATAACAACGA CGTCGTAACA GATAAAGCGA AGCTTGAAGG
481 TGCATGTGAC TCCGTCAAGA TTACGAAACC GCCAACTACC ACGCAAATTG CAATTCTCAA
541 TTTCTAGAA GGACTCTCCG AAAATGCATC CAATACCAA TATTACCCGT GTCATAGGCA
601 CCAAGTGACA CCATACATGA ACACGCGTCA CAATATGACT GGAGAAGGGT TCCACACCTT
661 ATGCTATAAA ACGCCCCACA CCCCTCCTCC TTCCTTCGCA GTTCAATTCC AATATATTCC
721 ATTCTCTCTG TGTATTTCCC TACCTCTCCC TTCAAGGTTA GTCGATTTCT TCTGTTTTTC
781 TTCTTCGTTC TTTCCATGAA TTGTGTATGT TCTTTGATCA ATACGATGTT GATTTGATTG
841 TGTTTTGTTT GGTTTCATCG ATCTTCAATT TTCATAATCA GATTCAGCTT TTATTATCTT
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901 TACAACAACG TCCTTAATTT GATGATTCTT TAATCGTAGA TTTGCTCTAA TTAGAGCTTT	2461 TCTCTGTAAC ATTACTGTTA ACAAGGCTGC TGTTTTTGGT GATAGCAGTG CCTTGGCCCC
961 TTCATGTCAG ATCCCTTTAC AACAGCCTT AATTGTTGAT TCATTAATCG TAGATTAGGG	2521 TGGTGGAGTG CGAATTGGTG CCCCTGCCAT GACTTCTAGG GGTTTGGTTG AAAAAGACTT
1021 CTTTTTTCAT TGATTACTTC AGATCCGTTA AACGTAACCA TAGATCAGGG CTTTTTCATG	2581 TGAGCAGATT GGTGAGTTCC TTCACCGTGC TGTGACTCTC AACTGGAGA TCCAGAAGGA
1081 AATTACTTCA GATCCGTAA ACAACAGCCT TATTTTTTAT ACTTCTGTGG TTTTCAAGA	2641 GCATGGCAAA CTTCTCAAGG ATTTCAACAA GGGTCTCGTC AACACAAGG CTATTGAAGA
1141 AATTGTTTCA ATCCGTTGAC AAAAAGCCTT ATTCGTTGAT TCTATATCGT TTTTCGAGAG	2701 TCTCAAAGCT GATGTTGAGA AGTTCCTGTC CTTGTTTGAC ATGCCTGGCT TCCTGGTATC
1201 ATATTGCTCA GATCTGTTAG CAACTGCCTT GTTTGTTGAT TCTATTGCCG TGGATTAGGG	2761 TGAAATGAAG TACAAGGATT AGCCTAGGTT CGAGTATTAT GGCATTGGGA AAAGTGTGTT
1261 TTTTTTTTCA CGAGATTGCT TCAGATCCGT ACTTAAGATT ACGTAATGGA TTTTGATTCT	2821 TCTTGTACCA TTTGTTGTGC TTGTAATTTA CTGTGTTTTT TATTCGGTTT TCGCTATCGA
1321 GATTTATCTG TGATTGTTGA CTCGACAGCG GCCGCACCGG CGCGCCATGG ATCCAGTAAG	2881 ACTGTGAAAT GGAAATGGAT GGAGAAGAGT TAATGAATGA TATGGTCCTT TTGTTTATTCT
1381 CGTGTGGGGT AACACGCCCT TGGCGACGGT GGATCCCAG ATCCATGACC TCATCGAGAA	2941 TCAAATTAAT ATTATTTGTT TTTTCTCTTA TTTGTTGTGT GTTGAATTTG AAATTATAAG
1441 GGAGAAGCGC CGTCAATGCC GCGGAATCGA GCTCATCGCC TCCGAGAACT TCACCTCCTT	3001 AGATATGCAA ACATTTTGTT TTGAGTAAAA ATGTGTCAAA TCGTGGCCTC TAATGACCGA
1501 CGCCGTCATC GAGGCCCTCG GCAGCGCTCT CACGAACAAA TACTCCGAGG GCATGCCGGG	3061 AGTTAATATG AGGAGTAAAA CACTTGTAAGT TGTACCATTA TGCTTATTCA CTAGGCAACA
1561 CAACCGCTAC TACGGCGGCA ATGAATACAT CGACCAGATC GAAAACCTCT GCCGCTCACG	3121 AATATATTTT CAGACCTAGA AAAGCTGCAA ATGTTACTGA ATACAAGTAT GTCCTCTTGT
1621 GCCCCTCCAA GCCTTCCACC TCGACGCCA ATCCTGGGGC GTCAACGTCC AGCCCTACTC	3181 GTTTTAGACA TTTATGAAGT TTCCTTTATG TAATTTTCCA GAATCCTTGT CAGATTCTAA
1681 CGGCTCCCCG GCCAACTTCG CCGCTACAC CGCGCTCCTC AACCCCCACG ACCGCATCAT	3241 TCATTGCTTT ATAATTATAG TTATACTCAT GGATTGTAG TTGAGTATGA AAATATTTTT
1741 GGGGCTAGAT CTCCGCTCCG GCGGCCACCT CACCCACGGC TACTACACCT CCGGCGGAAA	3301 TAATGCATTT TATGACTTGC CAATTGATTG ACAACATGCA TCAATCCGCG GTTATGACTC
1801 GAAGATCTCC GCCACCTCCA TTTACTTCGA GAGTCTCCCT TACAAGGTAA ACTCCACCAC	3361 TCTTAAGAGA GTCATGAATT CGAGCTTCCA GAAGGTAATT ATCCAAGATG TAGCATCAAG
1861 CGGCTACATC GACTACGACC GCTTGGAAGA AAAAGCCCTA GACTTCAGGC CAAAACCTCAT	3421 AATCCAATGT TTACGGGAAA AACTATGGAA GTATTATGTG AGCTCAGCAA GAAGCAGATC
1921 AATCTGCGGT GGCAGCGCGT ACCCTCGCGA TTGGGACTAC AAACGTTTCA GGGAAGTCGC	3481 AATATGCGGC ACATATGCAA CCTATGTTCA AAAATGAAGA ATGTACAGAT ACAAGATCCT
1981 TGATAAGTGC GGAGCATTGC TTCTCTGCGA CATGGCGCAC ACTAGCGGCC TTGTGGCCGC	3541 ATACTGCCAG AATACGAAGA AGAATACGTA GAAATTGAAA AAGAAGAACC AGGCGAAGAA
2041 CGAGGAAGTG AACAGCCCCT TCGAGTATTG CGACATTGTG ACCACCACGA CTCACAAGAG	3601 AAGAATCTTG AAGACGTAAG CACTGACGAC AACATGAAA AGAAGAAGAT AAGGTCGGTG
2101 CTTGCGGGGC CCACGTGCGG GGATGATCTT TTACCGGAAG GGCCCCAAGC CGCCGAAGAA	3661 ATTGTGAAAG AGACATAGAG GACACATGTA AGGTGGAATA TGTAAGGGCG GAAAGTAACC
2161 GGGGCAGCCG GAGAACGCGG TTTATGATTT CGAGGACAAG ATTAACCTTCG CGGTGTTCCC	3721 TTATCACAAA GGAATCTTAT CCCCCACTAC TTATCCTTTT ATATTTTTCG GTGTCATTTT
2221 TTCGCTGCAG GGTGGGCCCC ACAACCACCA GATCGGTGCT CTCGCGGTGG CGCTGAAGCA	3781 TGCCCTTGAG TTTTCTTATA TAAGGAACCA AGTTCGGCAT TTGTGAAAAC AAGAAAAAAT
2281 GGCCGCGTCG CCCGGGTTTA AGGCCTACGC GAAGCAGGTT AAGGCGAAGC CCGTTGCGCT	3841 TTGGTGTAAG CTATTTTCTT TGAAGTACTG AGGATACAAC TTCAGAGAAA TTTGTAAGTT
2341 TGGAAAATAC TTGATGGGGA AAGGTACAG CCTTGTCACT GCGGGAACGG AGAACCATCT	3901 TGTGATCCAT GGTGAGCAAG GCGGAGGAGC TGTTCACCGG GGTGGTGCCC ATCCTGGTCG
2401 TGTTTTGTGG GATCTGAGAC CTCTTGATT GACTGGGTAT AAGGTGAGAA AACTCTGTGA	3961 AGCTGGACGG CGACGTAAAC GGCCACAAGT TCAGCGTGTC CGGCGAGGGC GAGGGCGATG

Supplemental Figure S11. F-SHMT08cΔ+N374A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

4021 CCACCTACGG CAAGCTGACC CTGAAGTTCA TCTGCACCAC CGGCAAGCTG CUCGTGCCCT	5581 TAGGCCGCGA TTAAATTCCA ACATGGATGC TGATTTATAT GGGTATAAAT GGGCTCGCGA
4081 GGCCACCCCT CGTGACCACC TTCACCTACG GCGTGCAGTG CTTAGCCGCG TACCCCGACC	5641 TAATGTCGGG CAATCAGGTG CGACAATCTA TCGATTGTAT GGAAGCCCG ATGCGCCAGA
4141 ACATGAAGCA GCACGACTTC TTCAAGTCCG CCATGCCCCG AGGCTACGTC CAGGAGCGCA	5701 GTTGTCTCTG AAACATGGCA AAGGTAGCGT TGCCAATGAT GTTACAGATG AGATGGTCAG
4201 CCATCTTCTT CAAGGACGAC GGCAACTACA AGACCCGCGC CGAGGTGAAG TTCGAGGGCG	5761 ACTAACTGG CTGACGGAAT TTATGCCTCT TCCGACCATC AAGCATTTTA TCCGTACTCC
4261 ACACCCTGGT GAACCGCATC GAGCTGAAGG GCATCGACTT CAAGGAGGAC GGCAACATCC	5821 TGATGATGCA TGGTTACTCA CCACTGCGAT CCCCAGGAAA ACAGCATTTCC AGGTATTAGA
4321 TGGGGCACA GCTGGAGTAC AACTACAACA GCCACAACGT CTATATCATG GCCGACAAGC	5881 AGAATATCCT GATTCAGGTG AAAATATTGT TGATGCGCTG GCAGTGTTC TGCGCCGGTT
4381 AGAAGAACGG CATCAAGGTG AACTTCAAGA TCCGCCACAA CATCGAGGAC GGCAGCGTGC	5941 GCATTCGATT CCTGTTTGTA ATTGTCCTTT TAACAGCGAT CGCGTATTTT GTCTCGCTCA
4441 AGCTCGCCGA CCACTACCAG CAGAACACCC CCATCGGCGA CGGCCCGGTG CTGCTGCCCG	6001 GGCACAATCA CGAATGAATA ACGGTTTGGT TGATGCGAGT GATTTTGATG ACGAGCGTAA
4501 ACAACCACTA CCTGAGCACC CAGTCCGCCG TGAGCAAAGA CCCCACGAG AAGCGCGATC	6061 TGGCTGGCCT GTTGAACAAG TCTGGAAAGA AATGCATAAA CTTTGGCCAT TCTCACCGBA
4561 ACATGGTCCT GCTGGAGTTC GTGACCGCCG CCGGATCAC TCACGGCATG GACGAGCTGT	6121 TTCAGTCGTC ACTCATGGTG ATTTCTCACT TGATAACCTT ATTTTGGACG AGGGGAAATT
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4681 GATTGAATCC TGTTGCCGGT CTTGCGATGA TTATCATATA ATTTCTGTTG AATTACGTTA	6241 CCTATGGAAC TGCCTCGGTG AGTTTTCTCC TTCATTACAG AAACGGCTTT TTCAAAAATA
4741 AGCATGTAAT AATTAACATG TAATGCATGA CGTTATTTAT GAGATGGGTT TTTATGATTA	6301 TGGTATTGAT AATCCTGATA TGAATAAATT GCAGTTTCAT TTGATGCTCG ATGAGTTTTT
4801 GAGTCCCGCA ATTATACATT TAATACGCGA TAGAAAACAA AATATAGCGC GCAAACTAGG	6361 CTAAGAATTA ATTCATGATC CTGCATGACC AAAATCCCTT AACGTGAGTT TTCGTTCCAC
4861 ATAAATTATC GCGCGCGGTG TCATCTATGT TACTAGATCC GATGATAAGC TGTCAAACAT	6421 TGAGCGTCAG ACCCCGTAGA AAAGATCAAA GGATCTTCTT GAGATCCTTT TTTTCTGCGC
4921 GAGAATTAAT TCGTAATCAT GTCATAGCTG TTTCTGTGT GAAATTGTTA TCCGCTCACA	6481 GTAATCTGCT GCTTGCAAAC AAAAAACCA CCGCTACCAG CGGTGGTTTG TTTGCCGGAT
4981 ATTCCACACA ACATACGAGC CGGAAGCATA AAGTGTAAG CCTGGGGTGC CTAATGAGTG	6541 CAAGAGCTAC CAACTCTTTT TCCGAAGGTA ACTGGCTTCA GCAGAGCGCA GATACCAAAT
5041 AGCTAACTCA CATTAAATGC GTTGCGCTCA CTGCCCCTT TCCAGTCGGG AAACCTGTCTG	6601 ACTGTCCTTC TAGTGTAGCC GTAGTTAGGC CACCACTTCA AGAACTCTGT AGCACCGCCT
5101 TGCCAGCTGC ATTAATGAAT CGGCCAACGC GCGGGGAGAG GCGGTTTGC TATTGGCTAG	6661 ACATACCTCG CTCTGCTAAT CCTGTTACCA GTGGCTGCTG CCAGTGGCGA TAAGTCGTGT
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5221 AGCGTCAATT TGTTTACACC ACAATATATC CTGCCACCAG CCAGCCAACA GCTCCCCGAC	6781 GGGGGTTCTG GCACACAGCC CAGCTTGAG CGAACGACCT ACACCGAACT GAGATACCTA
5281 CGGCAGCTCG GCACAAAATC ACCACTCGAT ACAGGCAGCC CATCAGTCCG GGACGGCGTC	6841 CAGCGTGAGC TATGAGAAA GCGCCAGCTT CCCGAAGGGA GAAAGGCGGA CAGGTATCCG
5341 AGCGGGAGAG CCGTTGTAAG GCGGCAGACT TTGCTCATGT TACCGATGCT ATTGCGAAGA	6901 GTAAGCGGCA GGGTCGGAAC AGGAGAGCGC ACGAGGGAGC TTCCAGGGGG AAACGCTGG
5401 ACGGCACTA AGCTGCCGGG TTTGAAACAC GGATGATCTC GCGGAGGGTA GCATGTTGAT	6961 TATCTTTATA GTCCTGTGCG GTTTCGCCAC CTCTGACTTG AGCGTCGATT TTTGTGATGC
5461 TGTAACGATG ACAGAGCGTT GCTGCCTGTG ATCCAGATCA TGAACAATAA AACTGTCTGC	7021 TCGTCAGGGG GGCGGAGCCT ATGGAAAAAC GCCAGCAACG CGGCCTTTTT ACGGTTCTCTG
5521 TTACATAAAC AGTAATACAA GGGGTGTTAT GAGCCATATT CAACGGGAAA CGTCTTGCTC	7081 GCCTTTTGCT GGCCTTTTGC TCACATGTTT TTTCTGCGT TATCCCTGA TTCTGTGGAT

Supplemental Figure S11. F-SHMT08cΔ+N374A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.

7141 AACCGTATTA CCGCCTTTGA GTGAGCTGAT ACCGCTCGCC GCAGCCGAAC GACCGAGCGC	8701 TCGTAGCGGA TCACCTCGCC AGCTCGTCGG TCACGCTTCG ACAGACGGAA AACGGCCACG
7201 AGCGAGTCAG TGAGCGAGGA AGCGGAAGAG CGCCTGATGC GGTATTTTCT CTTTACGCAT	8761 TCCATGATGC TGCAGCTATC GCGGGTGCCC ACGTCATAGA GCATCGGAAC GAAAAATCT
7261 CTGTGCGGTA TTTCACACCG CATATGGTGC ACTCTCAGTA CAATCTGCTC TGATGCCGCA	8821 GGTGTGCTCGT CGCCCTTGGG CGGCTTCCTA ATCGACGGCG CACCGGCTGC CGGCGGTTGC
7321 TAGTTAAGCC AGTATACACT CCGCTATCGC TACGTGACTG GGTTCATGGCT GCGCCCCGAC	8881 CGGGATTCTT TCGGGATTTC ATCAGCGGCC GCTTGCCACG ATTCACCGGG GCGTGCTTCT
7381 ACCCGCCAAC ACCCGCTGAC GCGCCCTGAC GGGCTTGTCT GCTCCCGGCA TCCGCTTACA	8941 GCCTCGATGC GTTGCCCGTG GCGGCGCTGC GCGGCCTTCA ACTTCTCCAC CAGGTCATCA
7441 GACAAGCTGT GACCGTCTCC GGGAGCTGCA TGTGTCAGAG GTTTTCACCG TCATCACCGA	9001 CCCAGCGCCG CGCCGATTTC TACCGGGCCG GATGTTTTGC GACCGTCACG CCGATTCTCT
7501 AACCGCGGAG GCAGGGTGCC TTGATGTGGG CGCCGCGGCT CGAGTGCGCA CGGCGCGGCT	9061 GGGCTTGGGG GTTCCAGTGC CATTGCAGGG CCGGCAGACA ACCCAGCCGC TTACGCCTGG
7561 TGTCCGCGCC CTGGTAGATT GCCTGGCCGT AGGCCAGCCA TTTTGTAGCG GCCAGCGGCC	9121 CCAACCGCCC GTTCCTCCAC ACATGGGGCA TTCCACGGCG TCGGTGCCTG GTTGTCTTGG
7621 GCGATAGGCC GACGCGAAGC GCGGGGGCGT AGGGAGCGCA GCGACCGAAG GGTAGGCGCT	9181 ATTTTCCATG CCGCCTCCTT TAGCCGCTAA AATTCATCTA CTCATTATT CATTTGCTCA
7681 TTTTGCAGCT CTTGCGGTGT GCGCTGGCCA GACAGTTATG CACAGGCCAG GCGGGTTTTA	9241 TTTACTCTGG TAGTGCAGCG ATGTATTGAG ATAGCAGCTC GGTAATGGTC TTGCCTTGGC
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7861 TTCCGGTTCC CAATGTACGG CTTTGGGTTC CCAATGTACG TGCTATCCAC AGGAAAGAGA	9421 GACGGCCGGC ACTTAGCGTG TTTGTGCTTT TGCTCATTTT CTCTTTACCT CATTAACTCA
7921 CCTTTTCGAC CTTTTTCCCC TGCTAGGGCA ATTTGCCCTA GCATCTGCTC CGTACATTAG	9481 AATGAGTTTT GATTTAATTT CAGCGGCCAG CGCCTGGACC TCGCGGGCAG CGTCGCCCTC
7981 GAACCGGCGG ATGCTTCGCC CTCGATCAGG TTGCGGTAGC GCATGACTAG GATCGGGCCA	9541 GGGTTCTGAT TCAAGAACGG TTGTGCCGGC GCGGCGAGTG CCTGGGTAGC TCACGCGCTG
8041 GCCTGCCCCG CCTCCTCCTT CAAATCGTAC TCCGGCAGGT CATTTGACCC GATCAGCTTG	9601 CGTGATACGG GACTCAAGAA TGGGCAGCTC GTACCCGGCC AGCGCCTCGG CAACCTCACC
8101 CGCACGGTGA AACAGAACTT CTTGAACCTC CCGGCGCTGC CACTGCGTTC GTAGATCGTC	9661 GCCGATGCGC GTGCCCTTGA TCGCCCGCGA CACGACAAAG GCCGCTTGTA GCCTTCCATC
8161 TTGAACAACC ATCTGGCTTC TGCCTTGCTT GCGGCGCGGC GTGCCAGGCG GTAGAGAAAA	9721 CGTGACCTCA ATGCGCTGCT TAACCAGCTC CACCAGGTCG GCGGTGGCCC ATATGTCGTA
8221 CGGCCGATGC CGGGATCGAT CAAAAAGTAA TCGGGGTGAA CCGTCAGCAC GTCCGGGTTC	9781 AGGGCTTGCC TGCACCGGAA TCAGCACGAA GTCGCGCTGCC TTGATCGCGG ACACAGCCAA
8281 TTGCCCTTCTG TGATCTCGCG GTACATCCAA TCAGCTAGCT CGATCTCGAT GTAATCCGGC	9841 GTCCCGCGCC TGGGGCGCTC CGTCGATCAC TACGAAGTCG CGCCGGCCGA TGGCCTTCAC
8341 CGCCCGGTTT CGCTCTTTAC GATCTTGTAG CGGCTAATCA AGGCTTCACC CTCGGATACC	9901 GTCGCGGTCA ATCGTCGGGC GGTGATGCC GACAACGGTT AGCGGTTGAT CTTCCCGCAC
8401 GTCACCAGGC GGCCGTTCTT GGCCTTCTTC GTACGCTGCA TGGCAACGTG CGTGGTGTTC	9961 GGCCGCCCAA TCGCGGGCAC TGCCCTGGGG ATCGGAATCG ACTAACAGAA CATCGGCCCC
8461 AACCGAATGC AGGTTTCTAC CAGGTCGTCT TTCTGTCTTC CGCCATCGGC TCGCCGGCAG	10021 GGCGAGTTGC AGGGCGCGGG CTAGATGGGT TGCGATGGTC GTCTTGCTTG ACCCGCCTTT
8521 AACTTGAGTA CGTCCGCAAC GTGTGGACGG AACACGCGGC CGGGCTTGTC TCCCTTCCCT	10081 CTGGTTAAGT ACAGCGATAA CCTTCATGCG TTCCCTTTGC GTATTTGTTT ATTTACTCAT
8581 TCCCGGTATC GGTTCATGGA TTCGGTTAGA TGGGAAACCG CCATCAGTAC CAGGTCGTAA	10141 CGCATCATAT ACGCAGCGAC CGCATGACGC AAGCTGTTTT ACTCAAATAC ACATCACCTT
8641 TCCACACAC TGGCCATGCC GGCCGGCCCT GCGGAAACCT CTACGTGCCC GTCTGGAAGC	10201 TTTAGACGGC GCGCTCGGT TTCTTCAGCG GCCAAGCTGG CCGGCCAGGC CGCCAGCTTG

Supplemental Figure S11. F-SHMT08cΔ+N374A-CDS, insert size, vector, restriction enzymes, and sequenced positive clones used for cloning.


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10261 GCATCAGACA AACCGGCCAG GATTTTCATGC AGCCGCACGG TTGAGACGTG CGCGGGCGGC
10321 TCGAACACGT ACCCGGCCGC GATCATCTCC GCCTCGATCT CTTCCGTAAT GAAAAACGGT
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10501 CGGTGGGCGT CACTTCCTCG CTGCGCTCAA GTGCGCGGTA CAGGGTCGAG CGATGCACGC
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10621 GCGCGATCTG TGCCGGGGTG AGGGTAGGGC GGGGGCCAAA CTTACGCCT CGGGCCTTGG
10681 CGGCCTCGCG CCCGCTCCGG GTGCGGTCGA TGATTAGGGA ACGCTCGAAC TCGGCAATGC
10741 CGGCGAACAC GGTCAACACC ATGCGGCCGG CCGGCGTGGT GGTGTCGGCC CACGGCTCTG
10801 CCAGGCTACG CAGGCCCCGCG CCGGCCTCCT GGATGCGCTC GGCAATGTCC AGTAGGTCGC
10861 GGGTGCTGCG GGCCAGGCGG TCTAGCCTGG TCACTGTCAC AACGTCGCCA GGGCGTAGGT
10921 GGTCAAGCAT CCTGGCCAGC TCCGGGCGGT CGCGCCTGGT GCCGGTGATC TTCTCGGAAA
10981 ACAGCTTGGT GCAGCCGGCC GCGTGCA GTT GCGCCCGTTG GTTGGTCAAG TCCTGGTCGT
11041 CGGTGCTGAC GCGGGCATAG CCCAGCAGGC CAGCGGCGGC GCTCTTGTTT ATGGCGTAAT
11101 GTCTCCGTT CTAGTCGCAA GTATTCTACT TTATGCGACT AAAACACGCG ACAAGAAAAC
11161 GCCAGGAAAA GGGCAGGGCG GCAGCCTGTC GCGTAACTTA GGA CTGTGTGC GACATGTCGT
11221 TTTCAGAAGA CGGCTGCACT GAACGTCAGA AGCCGACTGC ACTATAGCAG CGGAGGGGTT
11281 GGATCAAAGT ACT

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