

Supplemental Materials

Supplemental Table 1 Reproductive performance of sows fed control or betaine supplemented diet as measured by litter size and litter weight

Variables	Control (n = 8)	Betaine (n = 8)
Litter size, n	12.89 ± 0.72	12.22 ± 0.68
Live litter size, n	12.22 ± 0.55	11.67 ± 0.69
Still birth rate	0.05 ± 0.02	0.04 ± 0.02
Litter weight, kg	18.45 ± 0.75	19.35 ± 1.30

Values are mean ± SEM, n = 8/ group.

Supplemental Table 2 Nucleotide sequences of specific primers

Target genes	Sequences (5' to 3')		Products	GenBank No.
<i>GNMT</i>	F: acaaagatgtgcccgaagtca	R: gtgctgaggatgtggtcgta	153 bp	NM_001110419.2
<i>DNMT1</i>	F: tcaggaccacactgtaag	R: gctgcagccattcttctgt	174 bp	DQ060156.1
<i>DNMT3a</i>	F: ggctcttctttgagttctaccg	R: gcgagatgtccctcttgca	126 bp	DQ785811.1
<i>DNMT3b</i>	F: tgaagagtccatcgctgttg	R: caatcaccagggtcaaaggg	119 bp	NM_001162404.1
<i>SREBP2</i>	F: aaaggcggacgacacacaac	R: ttggcatctgttcccatgac	60 bp	DQ020476.1
<i>HMGCR</i>	F: caggctgaagtaagggaga	R: cacgaagtaggtggcga ga	174 bp	DQ432054.1
<i>LDLR</i>	F: actgctcatctcc tctt	R: ttccgtggtcttctggta	109 bp	AF065990.1
<i>SR-BI</i>	F: tcaagcagcaggtctcaag	R: cttgtgctgaactccctgta	153 bp	NM_213967.1
<i>CYP7a1</i>	F: tagcaggcttcccgatc	R: ctgaccagttccgagatgtg	116 bp	AK230868.1
<i>CYP27a1</i>	F: tgtggctcgcategttc	R: tcacctggcagctcctt	153 bp	EF625352.1
<i>HMGCR</i> promoter	F: ccctatcgtcttcgc	R: cttgtcccgcaccatct	133bp	EU729728.1
<i>LDLR</i> promoter	F: gtcagggttcacgggta	R: ccagtcattgcagcatttc	161 bp	NC_010444.3

Supplemental Table 3 Antibodies for this experiment

Antibodies	MW	Species	Source	Catalogue no.
Western blotting				
GNMT	33 kd	Rabbit	proteintech™	18790-1-AP
DNMT1	184 kd	Rabbit	Santa Cruz	sc-20701
DNMT3a	102 kd	Rabbit	Bioworld	BS6587
DNMT3b	96 kd	Rabbit	Bioworld	BS2572
SREBP2	68 kd	Rabbit	proteintech™	14508-1-AP
HMGCR	97 kd	Rabbit	Bioworld	BS6625
LDLR	160 kd	Rabbit	proteintech™	10785-1-AP
SR-BI	82 kd	Rabbit	Abcam	ab137829
CYP7a1	57 kd	Rabbit	Abcam	ab79847
CYP27a1	60 kd	Rabbit	proteintech™	14739-1-AP
GAPDH	36 kd	Mouse	KangChen Bio-tech	KC-5G4
β-actin	42 kd	Mouse	KangChen Bio-tech	KC-5A08
ChIP				
IgG		Rabbit	Millipore	12-370
H3		Rabbit	Abcam	ab1791
H3K4me3		Rabbit	Abcam	ab8580
H3K27me3		Rabbit	Millipore	17-622

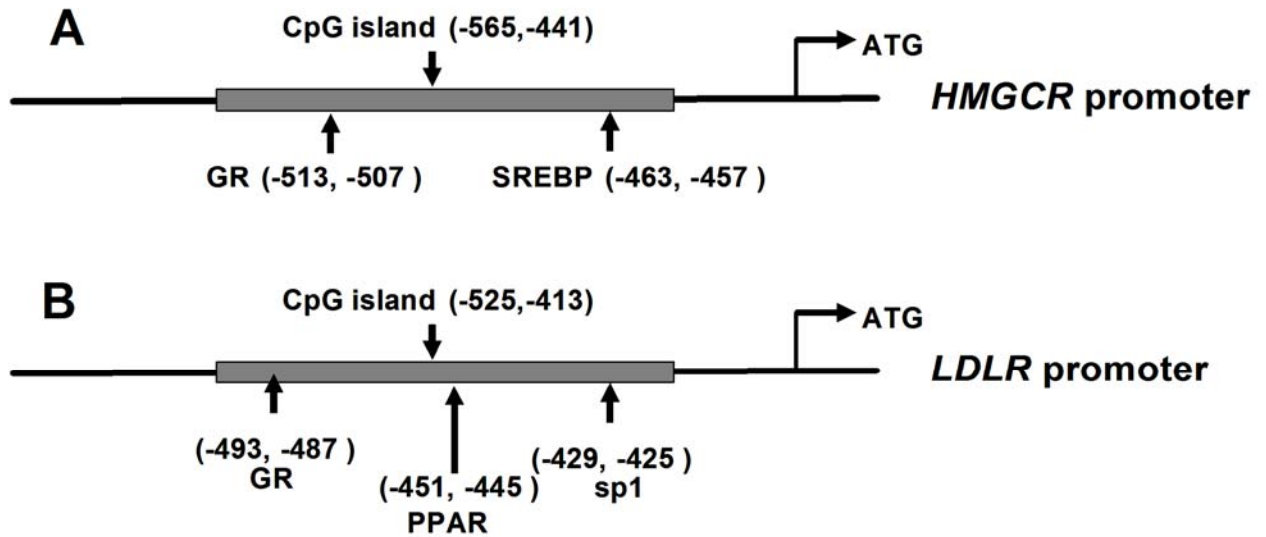
Supplemental Table 4 miRNA and the corresponding primer sequences

Name	Sequence (5' to 3')	miRbase Accession
ssc-miR-23a	atcacattgccagggatttcc	MIMAT0002133
ssc-miR-23b	atcacattgccagggattacca	MIMAT0013893
ssc-miR-29c	tagcaccatttgaatcgggta	MIMAT0002166
ssc-miR-497	cagcagcacactgtggtttgt	MIMAT0013926
ssc-miR-1285	ctgggcaacatagcagaccccg	MIMAT0013954
ssc-miR-138	agctggtgtgtgaatcaggc	MIMAT0025363
ssc-miR-181b	aacattcattgctgtcgggtgggt	MIMAT0002126
ssc-miR-24-3p	tggtcagttcagcaggaacag	MIMAT0002134
ssc-miR-339	tcctgtcctccaggagctca	MIMAT0025372
ssc-miR-339-5p	tcctgtcctccaggagctcac	MIMAT0013939
ssc-miR-4334-5p	ccctggagtgacgggggtg	MIMAT0017966
ssc-miR-532-3p	cctcccacaccaaggcttga	MIMAT0013941
ssc-miR-652	acaacctaggagagggtgccattca	MIMAT0017964
ssc-miR-7144-5p	actttccgggattggagcgc	MIMAT0028163
ssc-miR-145	gtccagtttccaggaatccctt	MIMAT0002123
ssc-miR-181c	aacattcaacctgtcggtagt	MIMAT0002143
ssc-miR-221	agctacattgtctgctgggtt	MIMAT0007762
ssc-miR-499-5p	ttaagacttcagtgatggtt	MIMAT0013877
ssc-miR-15b	tcgaggagctcacagtctagt	MIMAT0013882
ssc-miR-122	tggagtgtgacaatggtgtttgt	MIMAT0002119
ssc-miR-133a-3p	ttggtcccctcaaccagctg	MIMAT0010186
ssc-miR-133b	ttggtcccctcaaccagctat	MIMAT0013869
ssc-miR-139-5p	tctacagtgcacgtgtctccag	MIMAT0002159
ssc-miR-17-3p	actgcagtgaaggcactttag	MIMAT0015268
ssc-miR-193a-5p	tgggtctttgcgggcgagatga	MIMAT0013894
ssc-miR-202-3p	agaggtgtaggcatgggaa	MIMAT0022956
ssc-miR-2320-5p	tggcacaggtccagctgtcgg	MIMAT0020597
ssc-miR-24-3p	tggtcagttcagcaggaacag	MIMAT0002134
ssc-miR-30b-3p	ctgggaggtggatgttactt	MIMAT0015269
ssc-miR-361-3p	ccccaggtgtgattctgattgc	MIMAT0013934
ssc-miR-423-5p	tgaggggcagagagcgagactt	MIMAT0013880
ssc-miR-7143-5p	aagctcagctctgaagtgcagagg	MIMAT0028161
oligo dT adaptor	tagagtgagtgtagcagcacagaatt aatacgactcactataggtttttttttttvn	N/A
universal primer	tagagtgagtgtagcagca	N/A
U6	ggcaaggatgacacgcaat	N/A

Supplemental Table 5 Primer sequences of precursor microRNA

Target genes	Sequences (5' to 3')	miRbase accession no.
<i>ssc-miRNA-497</i>	F: cgcgatccccgccccagcagcacactgtggttgtagcgactgtggccacgtcaa R: cccaagttcccaccctcgctctaacaccacagtgtggttgacgtggccacagtgc	MI0013139
<i>ssc-miRNA-181</i>	F: cgcgatccaagggttgggggaacattcaacctgctggtgagttgggcagctcagg R: cccaagttccaggcctcgggtccactcaacggtcgatggttgctgagctgcca	MI0002438
<i>ssc-miRNA-SC</i>	F: gatccgacttacagccagttcctagtatagtaagcagcagatggtatactaggaactggc F: agctttcaaaaaagcttacagccagttcctagtataccatctgctgcttactatactagg	

Supplemental Figure 1 Predicted transcriptional factor binding sites in the detected promoter regions



Transcriptional factor binding sites were predicted by TRANSFAC 6.0