

**Dietary methionine supplementation during estrus cycle improves follicular
development and estrogen synthesis in rats**

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Online supplementary material

Supplemental Figures/Tables

**Table S1: The contents of amino acids in the diets during estrus cycle of rat (Analyzed,
%)**

Items	Control 0.40%	Met %			
		0.60%	0.90%	1.07%	1.37%
Asp	1.42	1.41	1.43	1.42	1.43
Thr	0.65	0.66	0.65	0.65	0.66
Ser	0.76	0.74	0.77	0.77	0.75
Glu	3.03	3.01	3.05	2.97	3.03
Pro	1.31	1.48	1.39	1.45	1.36
Gly	0.79	0.78	0.80	0.77	0.81
Ala	0.89	0.86	0.88	0.89	0.89
Cys	0.33	0.31	0.31	0.32	0.33
Val	0.81	0.81	0.81	0.81	0.81
Met	0.40	0.60	0.90	1.07	1.37
Ile	0.71	0.72	0.71	0.73	0.71
Leu	1.42	1.41	1.45	1.40	1.42
Tyr	0.57	0.58	0.57	0.58	0.57
Phe	0.61	0.59	0.60	0.58	0.61
His	0.55	0.53	0.55	0.52	0.55
Lys	0.81	0.79	0.82	0.80	0.81
Arg	1.03	1.05	1.05	1.06	1.03
Trp	0.21	0.20	0.21	0.20	0.21

Table S2: The contents of amino acids in the diets during estrus cycle of rat (Analyzed, %)

Items	Control	0.83% Met
Asp	1.43	1.41
Thr	0.65	0.64
Ser	0.77	0.74
Glu	3.07	2.97
Pro	1.27	1.50
Gly	0.80	0.77
Ala	0.89	0.87
Cys	0.33	0.30
Val	0.81	0.81
Met	0.39	0.85
Ile	0.71	0.71
Leu	1.42	1.39
Tyr	0.57	0.57
Phe	0.61	0.54
His	0.55	0.50
Lys	0.81	0.80
Arg	1.03	1.06
Trp	0.21	0.20

Table S3: PCR primers used for gene expression analysis

Gene	Forward primer	Reverse primer
<i>SNAT1</i>	TTCTTCACAGTCCGGTCCTC	GTCACCCCTACGACTCCAAA
<i>SNAT2</i>	CTGTCCCCGTCGTCATTTTC	GAACCCGAAGATGTCCCTGA
<i>SNAT4</i>	ACCCTGGAACGACCTCTTTT	AAACGCCTTCTCTCCCAACT
<i>LAT1</i>	GAGACCTCAGAAAAGCCCCT	GGTGAGCTAGGTGGGAAGTT
<i>LAT2</i>	GAGACCTCAGAAAAGCCCCT	GGTGAGCTAGGTGGGAAGTT
<i>BOAT</i>	GGCTCCATCCCTCTGCTAAT	TCCTCATAGTCAGGGTCCCA
<i>ASCI</i>	CTTGGTGTTCTGGGCATTCC	AAACCACGAAACACAGCTCC
<i>TATU</i>	AACTGCTACATACTACTCTG	CGGAACCAACTGAACTCTT
<i>MAT2a</i>	CTGGGGTCATTGTCAGGGAT	CCCTTTCCTCAGAGCTTGA
<i>MAT2b</i>	CACTAGAGGAGGCTGTGGTC	AGTGGCACCCGTAATGAGAA
<i>DNMT1</i>	AGCCCAGAGTATGCACCAAT	ATCATCGTCCTTAGCGTCGT
<i>DNMT3a</i>	AGAAGCCGCTGTTACCTCTT	GCTGAAACCCTTTGCACAGA
<i>DNMT3b</i>	AGGGGCATCACTGGAAATGA	AGTGAGGAAGCAGTGGAGAC
<i>CBS</i>	ACACAGTGCCGACAAAATCC	CAGCGTCTTCAATCATCCGG
<i>CTH</i>	TTCAGGAATGGGATGGCAGT	GAAGCTCAGCCAGACTCTCA
<i>LHCGT</i>	GCTCGGAGGATGGCTCTTTT	AGCACAGATGACGACGAAGG
<i>FSHR</i>	CATTCTTGGGCACGGGATCT	GGTGAGCACAAACCTCAGTT
<i>ESR1</i>	TCGCTACTGTGCTGTGTGTA	GCCTTTCATCATGCCCACTT
<i>ESR2</i>	TGAGCACCTTGAGTCCAGAG	AGTCCCACCATTAGCACCTC
<i>CYP11A</i>	AAAAGGTCTTTGCCTGCGCT	TTGCCCAGCTTCTCCCTGTAAAT
<i>CYP19A</i>	TCCCCCTGGACGAAAGTTCT	TGTCAGGTCTCCACGTCTCT
<i>STAR</i>	CACACTTTGGGGAGATGCCT	GAACTTCCAATGGCGTGCAG
<i>HSD3B</i>	CCAAGGAGGAATTCTCTAAGCTGC	CGACGCAGGCCTCCAATA
<i>GDF9</i>	CAGATATTGCCTCCACCCCC	ATACATGGCTGCTGGACCAC
<i>BMP15</i>	AGAGCCACTGTGGTTTACCG	AGAAGGCTTTGAGGAACCCG
<i>β-ACTIN</i>	AGCTGAGAGGGAAATCGTGC	GGAAGGCTGGAAAAGAGCCT

Figure S1: Feeding 0.83% methionine diet have no effect on serum contents of SAM and GSH.

