

Supplementary Material

Subtraction suppressive hybridisation analysis of differentially expressed genes associated with puberty in the goat hypothalamus

G. L. Cao^{A,B}, T. Feng^{A,C}, M. X. Chu^{A,D}, R. Di^A, Y. L. Zhang^B, D. W. Huang^A, Q. Y. Liu^A, W. P. Hu^A and X. Y. Wang^A

^AKey Laboratory of Farm Animal Genetic Resources and Germplasm Innovation of Ministry of Agriculture, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing 100193, China.

^BCollege of Agriculture, Liaocheng University, Liaocheng 252059, China.

^CInstitute of Animal Husbandry and Veterinary Medicine, Beijing Academy of Agriculture and Forestry Science, Beijing 100097, China.

^DCorresponding author. Email: mxchu@263.net

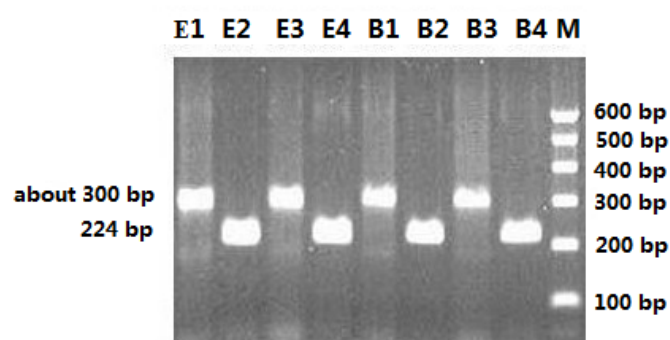
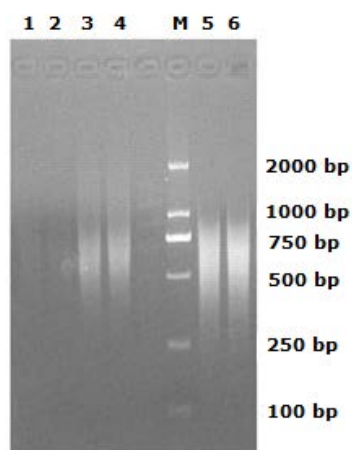


Fig.S1. Results of ligation efficiency analysis. E and B represent E and B group. For example, E1/B1: PCR products using Adaptor-1-ligated dscDNA as the template and the GAPDHR and PCR primer I. E2/B2: PCR products using Adaptor-1-ligated dscDNA as the template and the primer GAPDHR and primer GAPDHF. E3/B3: PCR products using Adaptor-2R-ligated dscDNA as the template and the GAPDHR and PCR primer I. E4/B4: PCR products using Adaptor-1-ligated dscDNA as the template and the primer GAPDHR and primer GAPDHF. M: DNA marker I (100 bp, 200 bp, 300 bp, 400 bp, 500 bp, 600 bp).

(A)



(B)

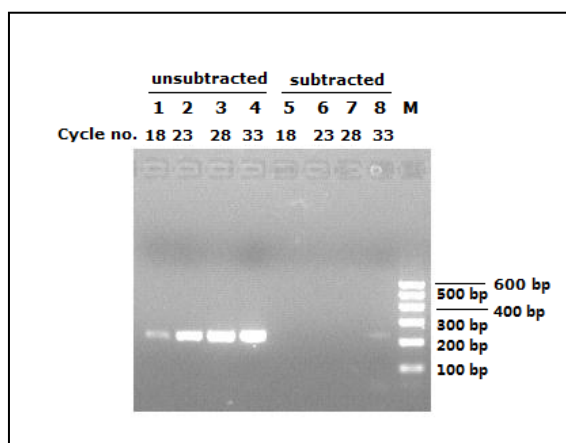


Fig. S2. (A) Results of the PCR product of the subtracted sample. Line 1 and 2: the first PCR product of the subtracted sample. Line 5 and 6: the secondary PCR of the subtracted sample. Line 3 and 4: the first PCR product of the un-subtracted sample. M: DNA marker DL 2000 (100 bp, 250 bp, 500 bp, 750 bp, 1000 bp, 2000 bp). (B) PCR analysis of subtraction efficiency by PCR amplification of house keeping gene GAPDH. 1-8: PCR amplification products of GAPDH. Line 1-4: PCR amplification of subtraction products and the cycle number were 18, 23, 27 and 33. 5-8 PCR amplification of un-subtraction products and the cycle number were 18, 23, 27 and 33. M: DNA marker I (100 bp, 200 bp, 300 bp, 400 bp, 500 bp, 600 bp).

Table S1. COG classification of differentially expressed genes from the three group of hypothalamus

HY COG classification		A		E		B	
		Number	Ratio	Number	Ratio	Number	Ratio
Cellular processes and signaling	Posttranslation modification, protein turnover, chaperones	5	8.3	15	25	6	8.2
	Signal transduction mechanisms	1	1.7			1	1.4
	Cytoskeleton	1	1.7	7	10.1	4	5.5
Information storage and processing	Chromatin structure and dynamics			1	1.4		
	RNA processing and modification	1	1.7				
	Transcription	1	1.7			4	5.5
	Translation, ribosomal structure and biogenesis	28	46.7	4	5.8	10	13.7
Metabolism	Amino acid transport and metabolism	1	1.7				
	Carbohydrate transport and metabolism	3	5.0	6	8.7	11	15.1
	Coenzyme transport and metabolism					1	1.4
	Energy production and conversion	16	26.7	32	46.4	30	41.1
	Inorganic ion transport and metabolism			2	2.9		
	Lipid transport and metabolism	1	1.7			3	4.1
Poorly characterised	Function unknown					1	1.4
	General function prediction only	2	3.3	2	2.9	2	2.7
Total		60		69		70	