

Fig. S1. Body mass (A), food intake (B) and mean pup mass (C) Swiss mice lactating at 21°C and 30°C, respectively. Females were randomly assigned to one of four litter size (LS) treatment groups that raised 2, 6, 12 or 18 pups (LS-2, LS-6, LS-12 or LS-18). Data are presented as means \pm SEM, * p <0.05, ** p <0.01.

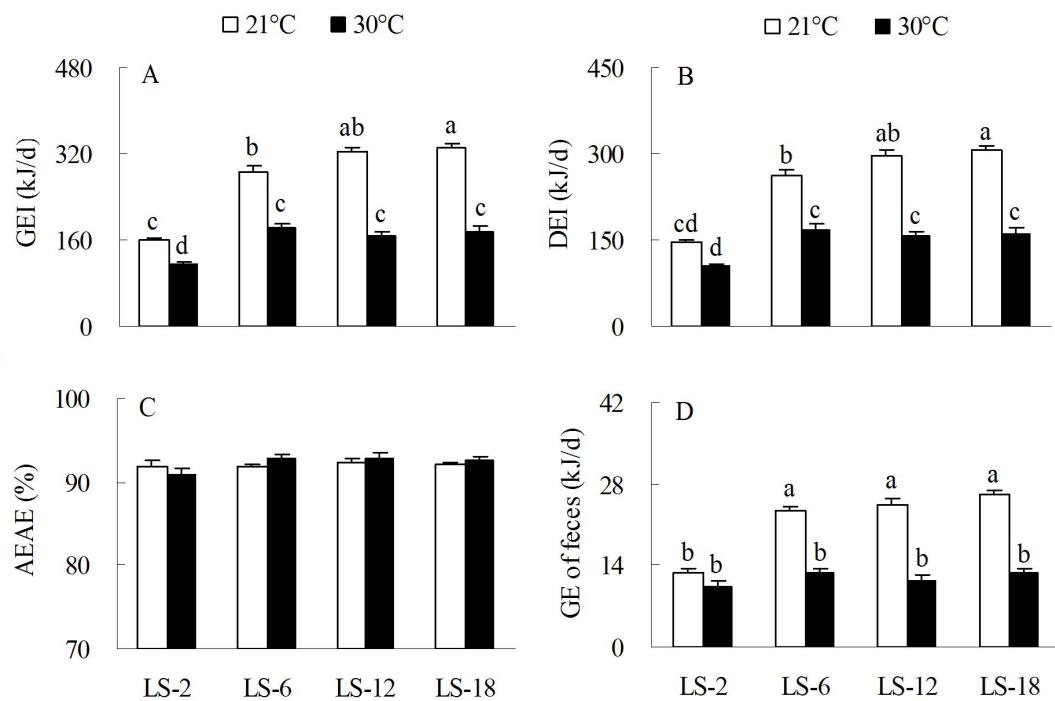


Fig. S2. Gross energy intake (GEI, A), digestive energy intake (DEI, B), apparent energy absorption efficiency (AEAE, C) and gross fecal energy (GE, D) in Swiss mice lactating at 21°C and 30°C, respectively. Females were randomly assigned to one of four litter size (LS) treatment groups that raised 2, 6, 12 or 18 pups (LS-2, LS-6, LS-12 or LS-18). Data are presented as means \pm SEM. Different letters indicate significant between-group differences as determined by an SNK post-hoc test ($p<0.05$).

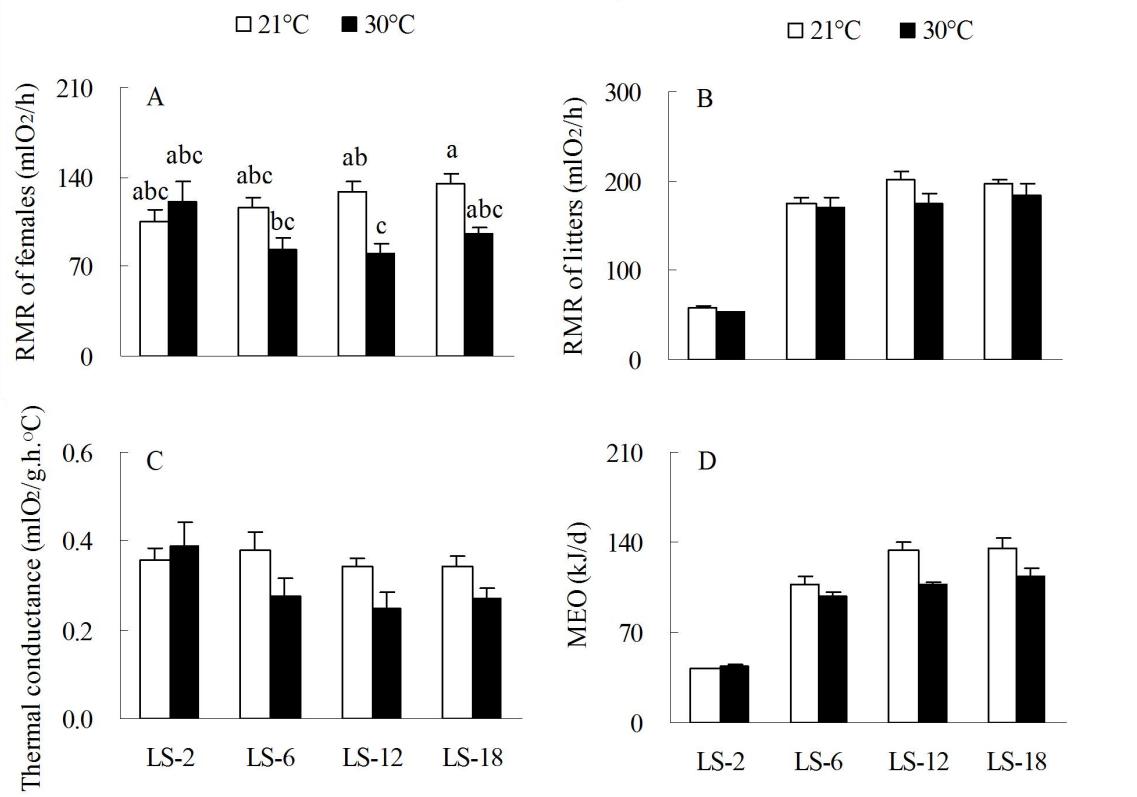


Fig. S3. Resting metabolic rate (RMR) of females (A) and litters (B), and thermal conductance (C), and milk energy output (MEO, D), in Swiss mice lactating at 21°C and 30°C, respectively. Females were randomly assigned to one of four litter size (LS) treatment groups that raised 2, 6, 12 or 18 pups (LS-2, LS-6, LS-12 or LS-18). Data are presented as means \pm SEM. Different letters indicate significant between-group differences as determined by an SNK post-hoc test ($p < 0.05$).

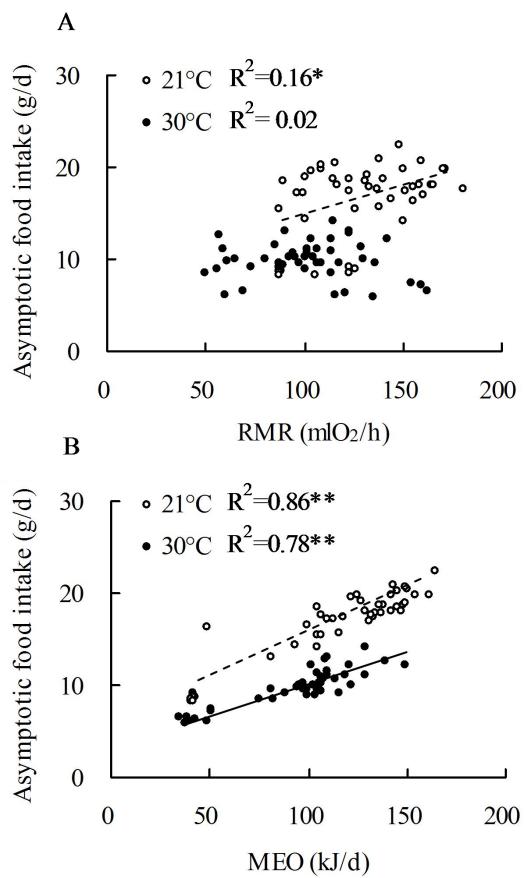


Fig. S4. Correlations between asymptotic food intake and resting metabolic rate (RMR; A) and milk energy output (MEO; B) in lactating Swiss mice at either 21°C or 30°C ambient temperature. *, the coefficient of correlation is significant ($p < 0.05$), **, $p < 0.01$.

Table S1. Gene-specific primer sequences used for real-time RT-QPCR analysis of the expression of neuropeptide genes and the prolactin receptor gene in lactating Swiss mice.

Gene	Primers	(5' to 3')
NPY	forward	5'-TCGTGTGTTGGGCATTCTG-3'
	reverse	5'-TCTGGTGATGAGATTGATGTAGTG-3'
AgRp	forward	5'-ACCTTAGGGAGGCACCTCAT-3'
	reverse	5'- AGAACATTGCAGTCAGCAT-3'
Orx	forward	5'-AACTTCCCTCTACAAAGGTTCC-3'
	reverse	5'-CGCTTCCCAGAGTCAGGAT-3'
CART	forward	5'-ACGAGAAGGAGCTGCCAAG -3'
	reverse	5'-GCTCTCCAGCGTCACACAT-3'
POMC	forward	5'-GAAGATGCCGAGATTCTGCT-3'
	reverse	5'- CTCCAGCGAGAGGTCGAGTT-3'
Prl-R	forward	5'-ATAAAAGGATTGATACTCATCTGCTAGAG-3'
	reverse	5'-TGTCACTCCACTCCAAGAACTCC-3'
Actin	forward	5'-CGTAAAGACCTCTATGCCAA-3'
	reverse	5'-GCGCAAGTTAGGTTTGTC-3'

Table S2. The coefficient of correlations between neuropeptides and energy intake in Swiss mice lactating at 21°C and 30°C.

		GEI	NPY	AgRp	Ore	CART	POMC
21°C	GEI	1					
	NPY	-0.30	1				
	AgRp	0.04	0.32*	1			
	Orx	-0.19	0.41**	0.48**	1		
	CART	-0.14	0.72**	0.49**	0.58**	1	
	POMC	-0.20	0.18	0.59**	0.55**	0.47**	1
30°C	GEI	1					
	NPY	-0.04	1				
	AgRp	-0.05	0.27	1			
	Ore	-0.22	0.37*	0.65**	1		
	CART	0.08	0.57**	0.66**	0.67**	1	
	POMC	-0.31	0.17	0.51**	0.67**	0.36*	1

Data are coefficient of correlations. *, significant correlation ($P<0.05$), **, $P<0.01$. GEI, gross energy intake during peak lactation; NPY, neuropeptide Y; AgRp, agouti-related protein; Ore, Orexin; CART, cocaine and amphetamine regulated transcript; POMC, pro-opiomelanocortin. There were positively significant correlations between the gene expressions of several hypothalamus neuropeptides, whereas, no correlations were observed between GEI and neuropeptides.