

Supplementary Data

Table 1: Primers used for measurements of hypothalamic gene expression. For each gene, the nucleotide sequence of the primer pair is stated, together with the ideal annealing temperature (°C) and length of the amplicon (in base pairs).

Pathway	Gene	Forward and reverse sequence	°C	Length
Orexigenic neurotransmitters	<i>NPY</i>	TCATCACCAGGCAGAGATACGG	59	140
		GAGCAAGTTTCCCATCACC		
	<i>AGRP</i>	TGAAGCGGATAATGGAGGAAC	58	148
		GAGAGGGTCAAGTAGAGATAG		
Insulin and leptin signalling	<i>PTP1B</i>	GGAAGAAGCCCAGAGGAGTT	60	132
		CGAGCCTTTCTCCATCACTC		
	<i>SOCS3</i>	AGCTCCAAGAGCGAGTACCA	60	176
		ACGCTGAGGGTGAAAAAGTG		
	<i>IR</i>	CTGCACCATCATCAACGGAA	59	161
		CGTAACTTCCGGAAGAAGGA		
	<i>OBRB</i>	TGAAACCACTGCCTCCATCC	60	130
		TCCACTTAAACCATAGCGAATCTG		
Intracellular energy signalling	<i>AMPKA2</i>	GCTGGATTTTGAATGGAAGG	59	153
		CAGCACCTCATCATCAATGC		
	<i>MTOR</i>	GCCTTCCGACCTTCTGCCTTC	59	96
		CCGCTGTCCGTTCTTCTCC		
	<i>FTO</i>	ACACATGGCTTCCCTACCTG	60	220
		GAGGATGCGAGAGACTGGAG		
Cortisol regulation	<i>GCR</i>	ACTGCCCAAGTGAAAACAGA	59	150
		ATGAACAGAAATGGCAGACATTTTATT		
	<i>CRH</i>	CATCACAGCACCCCAGCC	59	227
		GCAGCGCTCGGAAAAAGTT		
	<i>AVP</i>	CGACCTGGAGCTGAGACAGT	59	143
		GGCAGGTAGTTCTCCTCTTGG		

NPY, neuropeptide Y; *AGRP*, agouti-related peptide; *PTP1B*, protein tyrosine phosphatase, non-receptor type 1; *SOCS3*, suppressor of cytokine signalling 3; *IR*, insulin receptor; *OBRB*, leptin receptor, long form; *AMPKA2*, AMP-activated protein kinase $\alpha 2$; *MTOR*, mammalian target of rapamycin; *FTO*, fat mass and obesity associated gene; *GCR*, glucocorticoid

receptor; *CRH*, corticotropin releasing hormone; *AVP*, arginine vasopressin; *18S*, ribosomal RNA 18S.