

Supplementary Table S1: Metabolic parameters during saline and PYY study days.

Infusion	Time point	Leptin (ng/L)	Glucose	Insulin
			(mmol/L)	(pmol/L)
Saline	Baseline	1.35 ± 0.20	4.04 ± 0.10	31.2 ± 1.90
	End of infusion	1.37 ± 0.20	3.99 ± 0.06	26.80 ± 10.80
	Pre-meal	1.31 ± 0.18	3.74 ± 0.07	32.60 ± 14.60
PYY	Baseline	1.35 ± 0.18	3.96 ± 0.08	30.06 ± 1.88
	End of infusion	1.29 ± 0.18	3.83 ± 0.07	33.04 ± 10.73
	Pre-meal	1.28 ± 0.19	3.74 ± 0.07	35.94 ± 14.42

Leptin, glucose and insulin measured at baseline (T₋₁₀), end of infusion (T₉₀) and pre-meal (T₁₂₀). Values represent mean ± s.e.m. (n = 8 per group).

Supplementary Table S2: Cerebral foci covarying positively with PYY plasma concentrations

Brain regions	Talairach coordinates of peak activation (mm)			Z scores
	X	Y	Z	
Left orbitofrontal cortex	-46	26	-10	4.41
Midbrain PAG/VTA/SN	6	-27	-5	4.17
◦ VTA	-2	-20	-7	3.76
Right parabrachial nucleus	10	-28	-20	3.76
Right MSFG	4	34	50	3.76
◦ Left MSFG	-4	30	46	2.72
Right precentral gyrus	36	-14	27	3.69
Middle frontal gyrus	-42	6	46	3.56
Left posterior STG	-50	-40	15	3.51
Left posterior insula	-40	-10	2	3.45
Left anterior cingulate	-16	5	31	3.45
Left inferior parietal lobule	-51	-52	43	3.42
Right lateral globus pallidus	20	-6	-1	3.27
◦ right putamen	24	0	-5	3.02
Right anterior lobe cerebellum	36	-50	-28	3.22
Left precentral gyrus	-26	-16	60	3.20

Note. VTA, Ventral tegmental region; SN, substantia nigra; PAG, peri-aqueductal grey; MSFG, medial superior frontal gyrus; STG, superior temporal gyrus.

All values, $P < 0.05$ cluster-level corrected. ◦ = Sub peaks of a cluster

Z-score and co-ordinates from the peak voxel of the cluster.

Supplementary Table S3: Cerebral foci covarying negatively with PYY plasma concentrations

Brain regions	Talairach coordinates of peak activation (mm)			Z scores
	X	Y	Z	
Right middle frontal gyrus	30	27	32	5.82
Right angular gyrus	46	-63	31	4.84

Note. All values, $P < 0.05$ cluster-level corrected.
Z-score and co-ordinates from the peak voxel of the cluster.

Supplementary Table S4. Regions of interest covarying positively with PYY plasma concentrations

Brain regions	Talairach coordinates of peak activation (mm)			Z scores
	X	Y	Z	
Hypothalamus	6	-12	-8	3.69
Substantia nigra	16	-22	-7	3.36
Parabrachial nucleus	10	-28	-20	3.76

Note. All values, $P < 0.05$ voxel-level corrected for ROI.
Z-score and co-ordinates from the peak voxel of the cluster.

Supplementary Figures

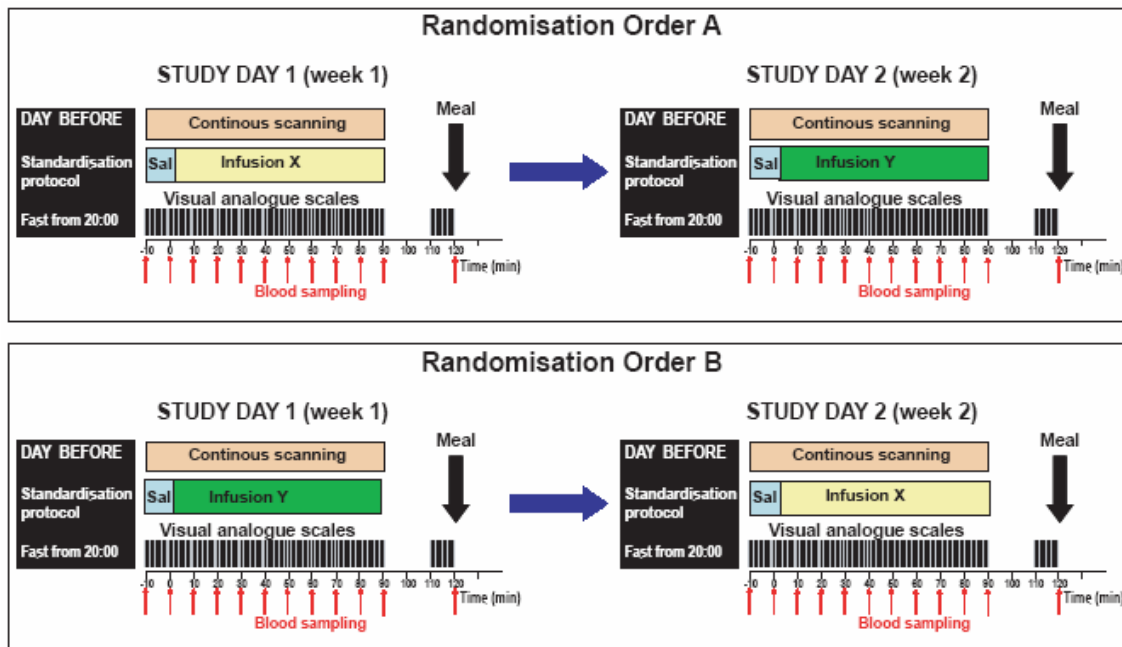


Figure S1: Double-blind placebo-controlled crossover fMRI study design.

Each subject attended on two study days one week apart. Half of the subjects were randomised to order A, and half to order B. Prior to each study day subjects followed a standardisation protocol including fasting from 20:00. On each study day at 10:30 subjects were scanned continuously for 100 minutes during which they received a baseline 10-minute saline infusion followed by either infusion X (saline) or infusion Y (PYY). Ten repeating visual analogue scales were presented at one-minute intervals and blood samples were taken at 10-minute intervals during the scanning. Thirty minutes post-scanning subjects consumed a buffet meal and caloric intake calculated.

