Supplemental Table 1

Characteristics of study subjects

	Lipodystrophic patients (n = 10)	Healthy controls (n = 10)
Age (yr)	23.1±1.8	25.1±1.2
Male/Female	3/7	3/7
BMI (kg/ m^2)	16.2±0.8	20.0±0.3 [A]
Body fat (%)	7.0±1.3	NA
Plasma leptin (ng/ml)	1.6±0.4	7.1±2.5 [B]
Plasma glucose (mg/dl)	101.6±12.1	90.3±6.0
Plasma insulin (μU/ml)	6.6±1.1	6.0±2.5

Data are means ± SEM. Body fat was measured by dual energy x-ray absorptiometry. Blood samples in patients were obtained under leptin-off conditions. [A, B] $p < 0.01$ (Student's *t* test). NA: not available.

Supplemental Table 2

Brain activations for the contrast "food > non-food" in controls and leptin-off patients

	ROI area	Fasting				Postprandial			
		Coordinate			Zscore	Coordinate			Zscore
		x	y	z		x	y	z	
Controls	Hypothalamus								
	Orbitofrontal cortex	34	14	-22	4.07	38	44	-14	3.98
		-28	28	-18	3.06	-22	30	-20	4.31
	Amygdala	22	-2	-24	2.91				
		-22	0	-26	2.95				
	Hippocampus								
	Insula	40	-2	-4	4.07				
		-40	-4	-2	4.79	-38	-4	2	2.96
	Nucleus accumbens								
	Caudate	14	20	6	3.32				
		-12	20	-6	3.18				
	Putamen	36	-4	-2	3.03				
		-14	8	-2	2.82				
	Globus pallidus	10	0	0	2.91				
		-10	6	-2	3.48				
Patients (leptin-off)	Hypothalamus								
	Orbitofrontal cortex	-24	30	-16	4.56	-26	28	-16	3.80
	Amygdala	22	-6	-16	3.01	22	-4	-22	4.40
						-20	-4	-24	3.86
	Hippocampus	-28	-32	-2	4.03	-24	-32	-4	2.75
	Insula	40	-4	-4	4.22	38	-4	-2	4.05
		-40	-8	2	3.75	-38	-10	4	3.83
	Nucleus accumbens					-12	10	-8	3.17
	Caudate	10	6	0	3.69	12	10	0	2.64
		-10	10	8	4.52				
	Putamen	-14	8	-4	3.95	-12	8	-8	3.51
	Globus pallidus	12	8	-6	4.06				
		-12	6	-2	3.65	-12	8	-6	3.49

Coordinate indicates the highest activity voxel of the cluster by MNI systems. Negative x axis coordinates indicate left hemisphere. Z-score represents level of significance.

Supplemental Table 3

Brain activations for the contrast "food > non-food" in leptin-on patients

	ROI area	Fasting				Postprandial			
		Coordinate			Zscore	Coordinate			Zscore
		x	y	z		x	y	z	
Patients (leptin-on)	Hypothalamus								
	Orbitofrontal cortex	26	24	-20	3.85	32	50	-6	3.29
		-28	26	-18	4.25	-30	42	-8	3.01
	Amygdala	20	-2	-20	3.43				
		-22	0	-24	3.39				
	Hippocampus	20	-28	-6	3.85				
		-20	-30	-4	4.61				
	Insula	38	-4	2	3.79				
		-38	-6	0	4.55	-32	10	-4	3.67
	Nucleus accumbens								
	Caudate	10	6	0	3.14				
	Putamen	36	-4	2	3.14				
	Globus pallidus	16	-2	4	4.14				
		-22	-10	4	3.54				

Coordinate indicates the highest activity voxel of the cluster by MNI systems. Negative x axis coordinates indicate left hemisphere. Z-score represents level of significance.

Supplemental Table 4

Laboratory tests in patients

	Leptin-off	Leptin-on
Plasma leptin (ng/ml)	1.6±0.4	5.6±1.6 [A]
Plasma glucose (mg/dl)	101.6±12.1	98.9±12.0
Plasma insulin (μU/ml)	6.6±1.1	6.2±0.9

Data are means ± SEM (n=10 each group). [A] $p < 0.01$ (paired Student's *t* test).

Supplemental Figure 1

Study design. (A) Schema of overall test procedure. The same functional magnetic resonance imaging procedure was performed under fasting and postprandial conditions on separate days. (B) Imaging task. Food and non-food pictures were presented randomly in an event-related design. Each picture was presented for 5 s followed by a rating image for 3 s and a mosaic image for 7 s. Each session comprised 75 stimuli (45 food and 30 non-food pictures). In an imaging test, 3 devided sessions were conducted continuously. (C) Examples of food, non-food, rating scale, and mosaic images. 135 food and 90 non-food pictures were matched

for size, brightness, color distribution, and visual complexity,.

Supplemental Figure 1