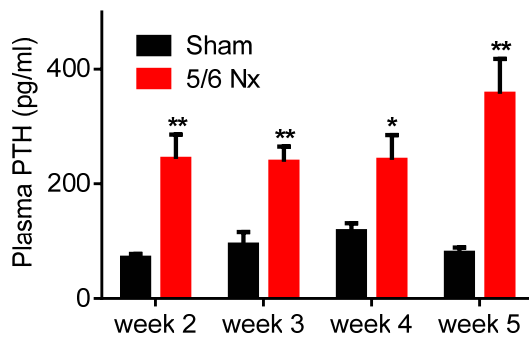
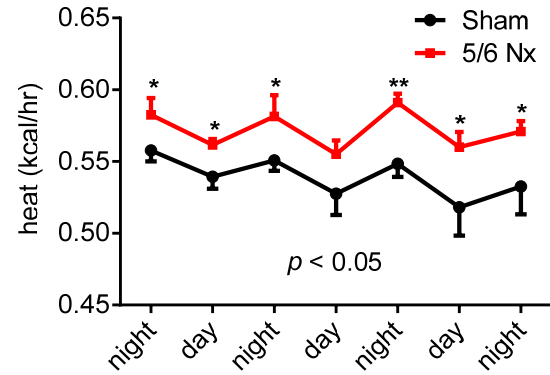


Figure S1, related to Figure 1

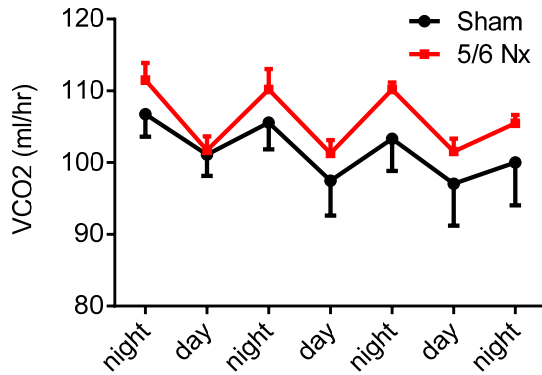
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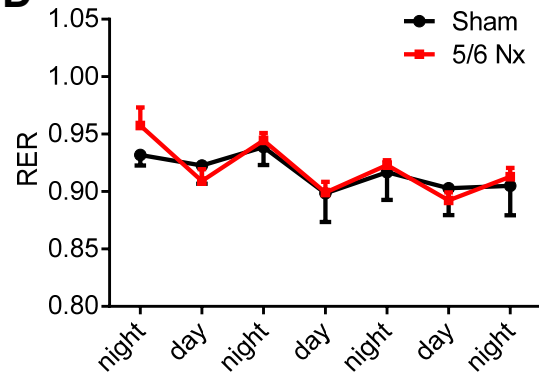
B



C



D



E

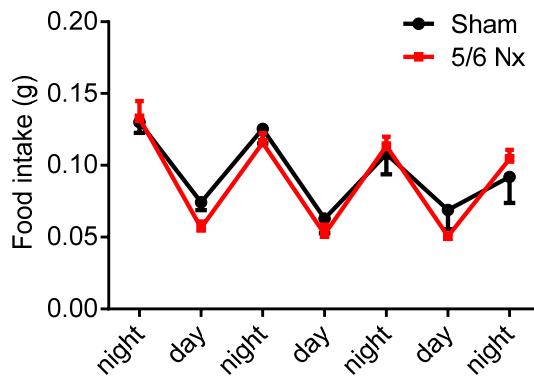


Figure S2, related to Figure 1

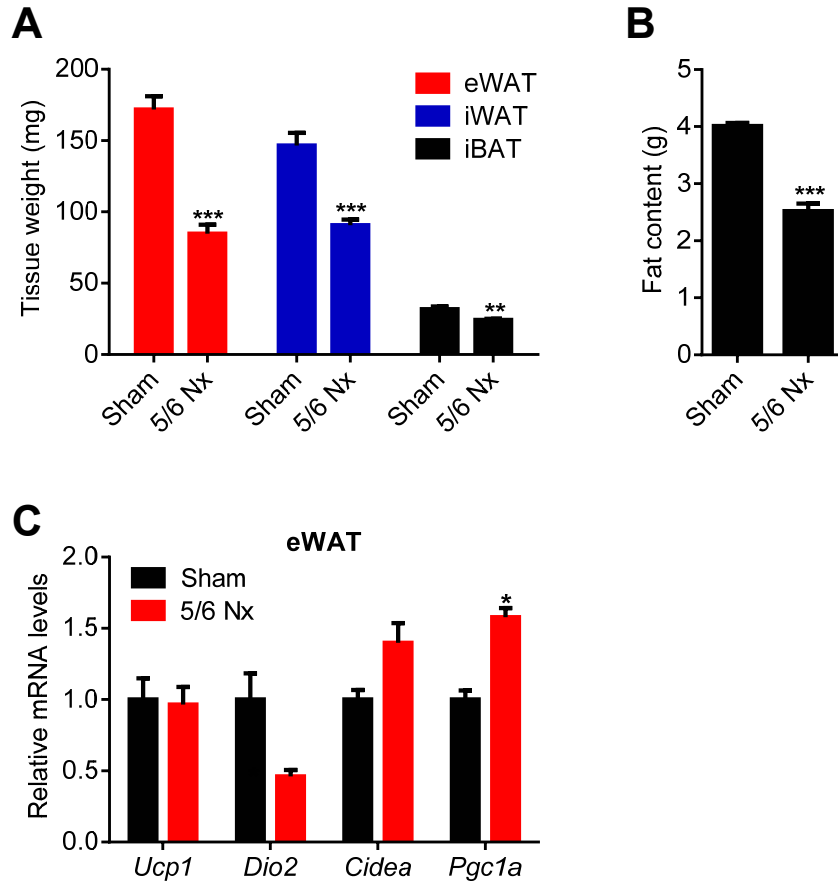


Figure S3, related to Figure 4

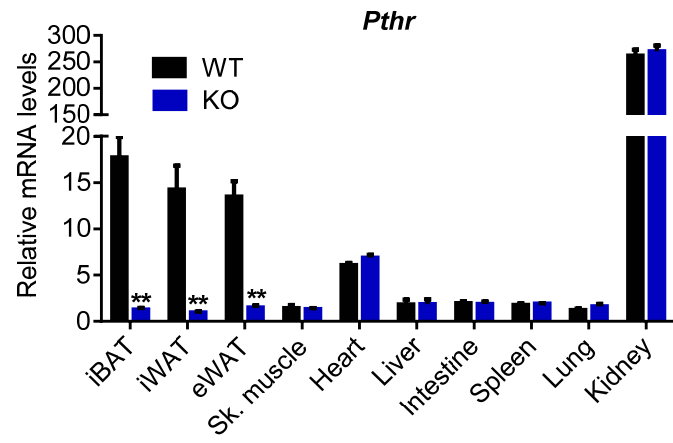


Figure S4, related to Figure 5

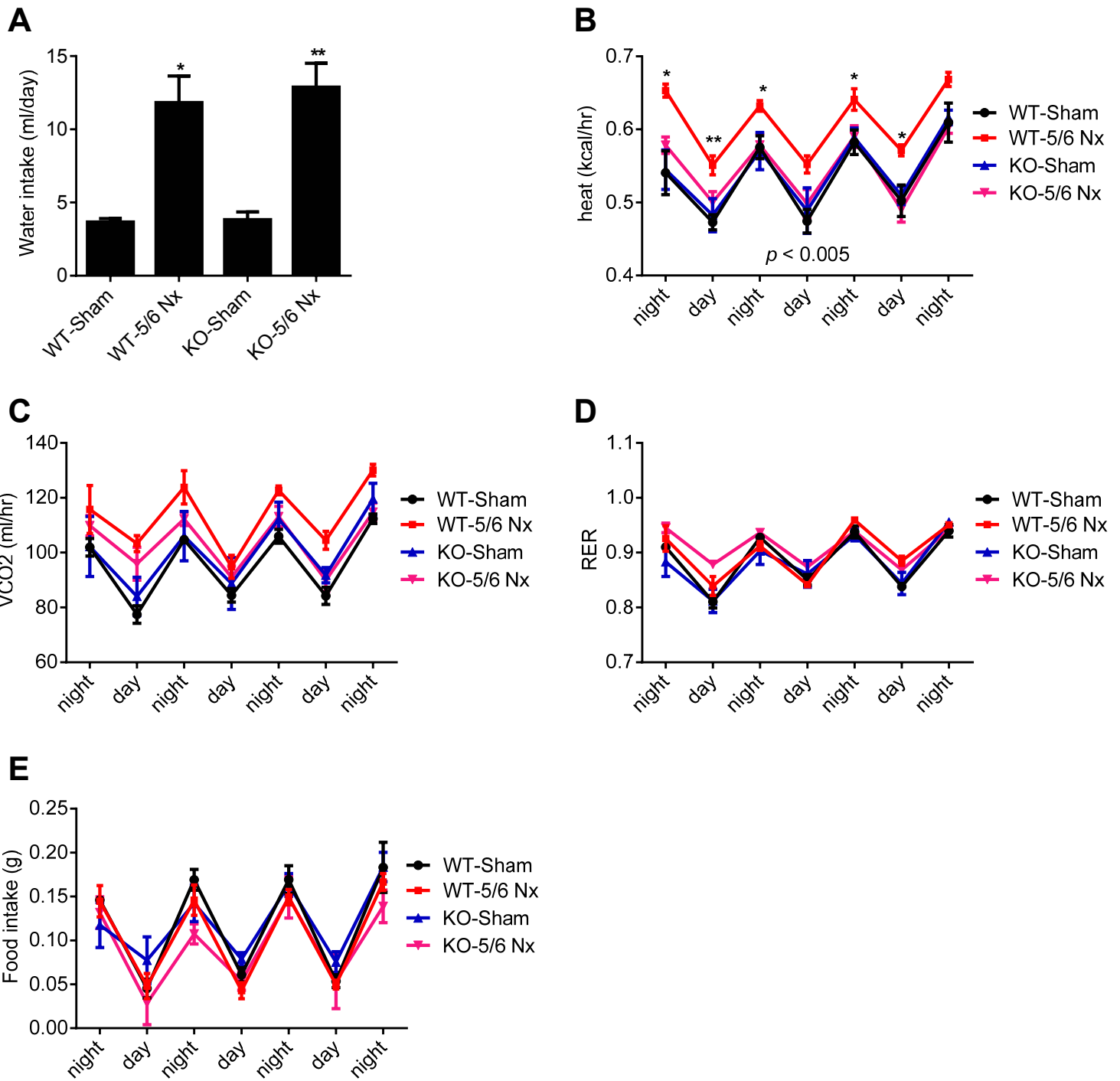


Figure S5, related to Figure 6

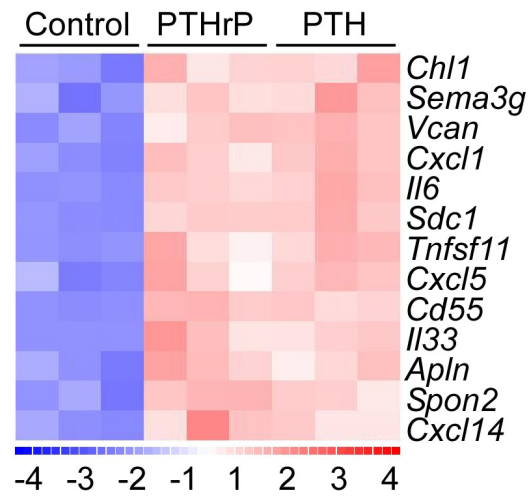
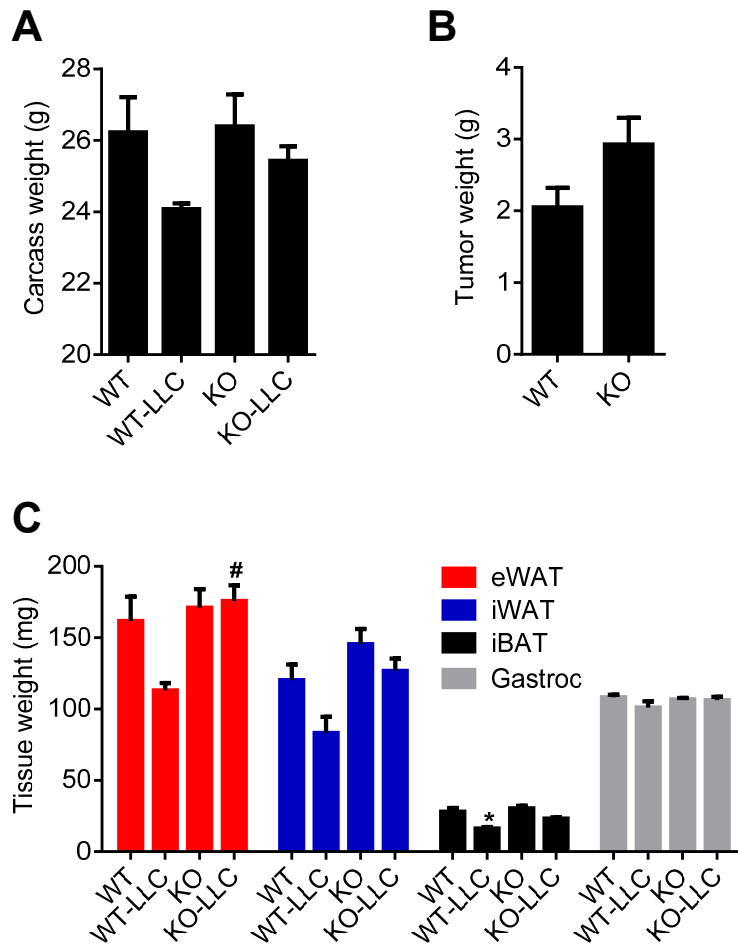


Figure S6, related to Figure 7



SUPPLEMENTAL FIGURE AND TABLE LEGENDS

Figure S1 (Related to Figure 1). Metabolic parameters of the 5/6 nephrectomized mice

(A-F) Mice underwent sham or 5/6 nephrectomy surgery and were sacrificed 5 weeks later (n = 5-7). (A) Plasma PTH levels were measured between post-surgery weeks 2-5. They were placed into metabolic cages between post-surgery weeks 2 and 3, when the difference in body weight was small. Their heat generation (B), CO₂ production (VCO₂) (C), Respiratory Exchange Ratio (RER) (D) and food intake (E) were monitored. The values are mean ± SEM. **P* < 0.05, ***P* < 0.005.

Figure S2 (Related to Figure 1). 5/6 nephrectomized mice lose fat mass.

(A-B) Mice underwent sham or 5/6 nephrectomy surgery and were sacrificed 4 weeks later (n = 6). Fat tissues were dissected and weighed (A). Whole body fat composition was determined by MRI (B).

(C) Mice underwent sham or 5/6 nephrectomy surgery and were sacrificed 5 weeks later (n = 5-7). mRNA levels in eWAT (C) was determined by RT-qPCR. The values are mean ± SEM. **P* < 0.05, ***P* < 0.005, ****P* < 0.0005.

Figure S3 (Related to Figure 4). *Pthr* mRNA levels in an array of tissues from Wild-type and Adipo-PTHR-KO mice

Pthr mRNA expression in various tissues of WT and Adipo-PTHR-KO mice is shown (n = 3). The values are mean ± SEM. ***P* < 0.005.

Figure S4 (Related to Figure 5). Metabolic parameters of the 5/6 nephrectomized Adipo-PTHR-KO mice

(A-D) Mice underwent sham or 5/6 nephrectomy surgery and were sacrificed 5 weeks later (n = 5-6). They were placed into metabolic cages between post-surgery weeks 2 and 3, when the

difference in body weight was small. Their water consumption (A), heat generation (B), CO₂ production (VCO₂) (C), Respiratory Exchange Ratio (RER) (D) and food intake (E) were monitored. The values are mean ± SEM. **P* < 0.05, ***P* < 0.005.

Figure S5 (Related to Figure 6). Global gene expression analysis of the fat cells treated with PTH and PTHrP

Primary adipocytes were treated with PTH or PTHrP (100 ng/ml each) for 4 hr. Gene expression heat map of the secreted factors identified in the microarray analysis is shown.

Figure S6 (Related to Figure 7). Adipo-PTHR-KO mice are resistant to LLC tumor-driven cachexia

(A-C) Mice inoculated with LLC cells were sacrificed 14 days later (n = 4-5). Carcass weight (calculated by subtracting tumor weight from the total weight) (A) and tumor weight (B) were shown. Fat and muscle tissues were dissected and weighed (C). The values are mean ± SEM. (*) refers to differences between LLC and non-tumor-bearing groups. (#) refers to differences between WT-LLC and KO-LLC groups. **P* < 0.05, #*P* < 0.05, ###*P* < 0.005.

Table S1 (Related to Figure 3). Information on the patient group and their plasma PTH levels

Table S1, related to Figure 3

	GENDER	AGE AT SURGERY	DIAGNOSIS	Surgery	BMI	Intraoperative Serum PTH (pg/ml)		Serum PTH (pg/ml)	
					(kg/m ²)	Prior excision	After excision	before surgery	after surgery
1	Female	48	Benign neoplasm	right thyroid lobectomy	36	-	-	-	-
2	Female	64	Primary hyperparathyroidism	parathyroidectomy	21.5	61	30	-	-
3	Female	68	Primary hyperparathyroidism	parathyroidectomy	20	181	10	95	38
4	Female	49	Primary hyperparathyroidism	parathyroidectomy	26.5	321	29	-	99
5	Female	59	Primary hyperparathyroidism	parathyroidectomy	31.8	202	20	165	31
6	Female	49	Primary hyperparathyroidism	parathyroidectomy	19.8	81	26	75	30
7	Female	36	Hurthle cell neoplasm	Left thyroidectomy	21.1	-	-	-	-
8	Female	44	Primary hyperparathyroidism	parathyroidectomy	28.6	196	30	179	10
9	Female	46	Benign neoplasm	right thyroid lobectomy	23	-	-	-	-
10	Female	47	Primary hyperparathyroidism	parathyroidectomy	39.8	166	31	166	64
11	Female	71	Primary hyperparathyroidism	parathyroidectomy	32.3	129	-	-	34
12	Female	44	Graves disease	Total thyroidectomy	22.5	-	-	-	-
13	Female	52	Benign goiter	Left thyroidectomy	25	-	-	-	-
14	Female	32	Benign goiter	Left thyroidectomy	22.5	-	-	-	-
15	Female	75	Primary hyperparathyroidism	parathyroidectomy	21.3	57	26	51	24
16	Female	78	Primary hyperparathyroidism	parathyroidectomy	35.3	170	33	-	-
17	Female	46	Graves disease	Total thyroidectomy	26.5	-	-	-	-
18	Female	67	Benign goiter	Total thyroidectomy	34.4	-	-	-	-
19	Female	53	Primary hyperparathyroidism	right parathyroidectomy	18.3	157	35	-	55
20	Female	45	Benign goiter	thyroidectomy	30.3	-	-	-	-
21	Male	64	Hurthle-cell neoplasm	thyroidectomy	30.3	-	-	-	-
22	Female	31	Benign goiter	thyroidectomy	20.9	-	-	-	-
23	Female	59	Primary hyperparathyroidism	parathyroidectomy	23.5	60	16	-	23