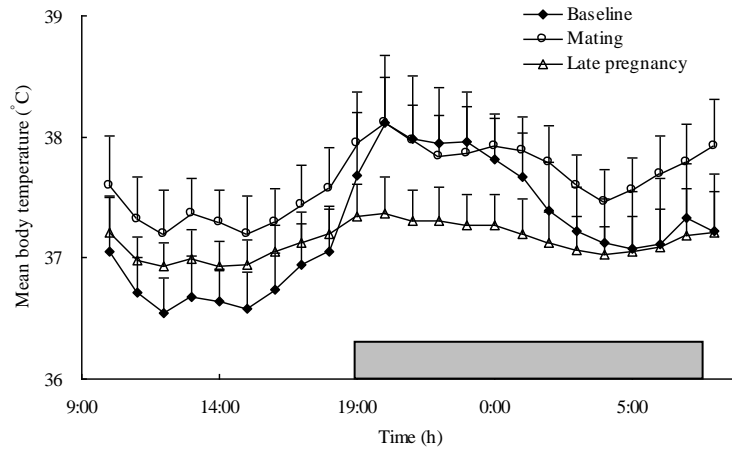
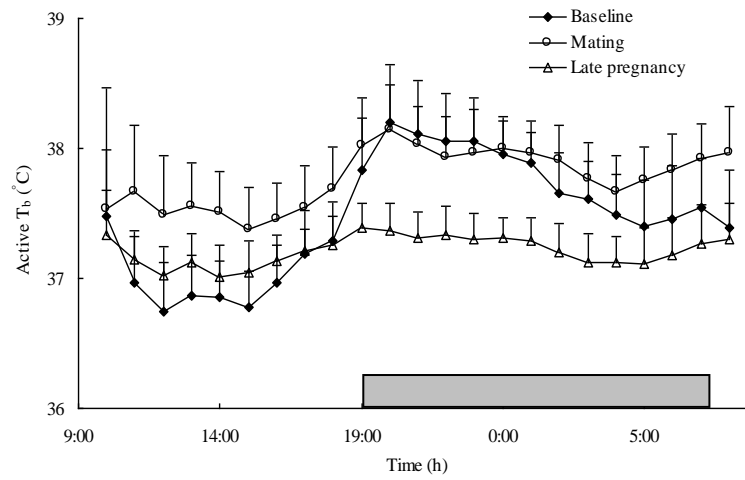


Fig S1: Diurnal patterns of variation in (a) mean body temperature and (b) active body temperature of MF1 mice during baseline, mating and late pregnancy periods. The grey bar represents the period of darkness.

(a)



(b)



Supplementary Table 1 Energy intake and body mass changes from baseline to pregnancy.

	Day	Energy intake* (kJ day ⁻¹) (n)	Energy intake (kJ day ⁻¹) (n)	Body mass (g) (n)
Baseline	-27	70.53 ± 10.73 (11)	66.51 ± 10.65 (26)	29.74 ± 1.72 (26)
	-26	63.07 ± 12.41 (11)	63.71 ± 10.69 (26)	30.05 ± 1.78 (26)
	-25	77.50 ± 19.42 (11)	73.63 ± 15.04 (26)	30.13 ± 1.65 (26)
	-24	81.95 ± 24.41 (11)	72.44 ± 19.46 (26)	30.39 ± 1.55 (26)
	-23	70.77 ± 16.74 (11)	64.44 ± 13.90 (26)	30.47 ± 1.52 (26)
	-22	72.45 ± 18.91 (11)	66.22 ± 15.39 (26)	30.59 ± 1.48 (26)
	-21	72.10 ± 11.92 (11)	68.44 ± 13.12 (26)	30.65 ± 1.56 (26)
Mating	-20			31.57 ± 1.29 (23)
	-19			31.72 ± 1.55 (26)
	-18			31.86 ± 1.48 (26)
	-17			32.16 ± 1.48 (26)
	-16			32.60 ± 1.57 (26)
Pregnancy	-15			33.08 ± 1.56 (26)
	-14			33.48 ± 1.57 (26)
	-13			33.95 ± 1.67 (26)
	-12	89.49 ± 34.29 (11)	89.49 ± 34.29 (11)	34.50 ± 1.70 (26)
	-11	86.29 ± 21.53 (11)	82.86 ± 21.55 (13)	35.12 ± 1.84 (26)
	-10	91.67 ± 19.29 (11)	86.40 ± 19.68 (16)	35.92 ± 2.10 (26)
	-9	93.29 ± 20.38 (11)	87.11 ± 18.98 (17)	37.15 ± 2.00 (26)
	-8	88.49 ± 20.92 (11)	80.03 ± 22.46 (18)	38.84 ± 2.28 (26)
	-7	90.05 ± 18.93 (11)	86.64 ± 16.16 (18)	40.50 ± 2.41 (26)
	-6	104.51 ± 28.58 (11)	94.42 ± 23.30 (22)	42.49 ± 2.66 (26)
	-5	103.10 ± 31.26 (11)	95.05 ± 25.21 (26)	44.72 ± 3.15 (26)
	-4	109.62 ± 33.24 (11)	96.26 ± 26.81 (26)	47.38 ± 3.34 (26)
	-3	114.64 ± 26.17 (11)	106.53 ± 23.35 (26)	50.46 ± 3.83 (26)
	-2	107.49 ± 32.04 (11)	98.27 ± 25.79 (26)	53.62 ± 4.49 (26)
-1		69.65 ± 18.67 (10)	56.47 ± 4.87 (26)	

Days are counted backward from the day of parturition (Day 0=parturition). Energy intake is not shown during a mating period when a male was housed together with a female. Energy intake and body mass are expressed as means ± s.d. across the sample sizes shown in this table. *Energy intakes are calculated from the same 11 mice in baseline and pregnancy after Day -12.

Supplementary Table 2 Daily activity counts, mean T_b, active T_b and Inactive T_b.

	Day	Activity	Mean T _b	Active T _b	Inactive T _b	Sample size
Baseline	-27	22.24 ± 8.10	37.22 ± 0.26	37.57 ± 0.24	36.64 ± 0.37	26
	-26	23.15 ± 8.96	37.21 ± 0.28	37.59 ± 0.25	36.59 ± 0.36	26
	-25	21.28 ± 7.84	37.30 ± 0.25	37.67 ± 0.22	36.67 ± 0.35	26
	-24	22.19 ± 9.06	37.23 ± 0.26	37.63 ± 0.25	36.60 ± 0.30	26
	-23	22.53 ± 9.76	37.27 ± 0.32	37.67 ± 0.23	36.61 ± 0.42	26
	-22	21.59 ± 9.55	37.24 ± 0.27	37.66 ± 0.21	36.54 ± 0.37	26
	-21	30.00 ± 9.26	37.24 ± 0.26	37.66 ± 0.22	36.57 ± 0.28	26
Mating	-20	23.70 ± 7.63	37.69 ± 0.25	37.90 ± 0.23	36.93 ± 0.41	23
	-19	23.02 ± 7.62	37.56 ± 0.24	37.78 ± 0.25	37.01 ± 0.29	26
	-18	22.30 ± 7.07	37.61 ± 0.21	37.83 ± 0.21	37.15 ± 0.28	26
	-17	22.74 ± 6.74	37.51 ± 0.19	37.74 ± 0.21	36.96 ± 0.43	26
	-16	22.34 ± 6.23	37.69 ± 0.20	37.87 ± 0.20	37.33 ± 0.29	26
Pregnancy	-15	22.74 ± 6.15	37.74 ± 0.22	37.93 ± 0.20	37.41 ± 0.28	14
	-14	23.19 ± 6.39	37.76 ± 0.19	37.91 ± 0.20	37.46 ± 0.23	26
	-13	21.89 ± 6.24	37.77 ± 0.18	37.92 ± 0.20	37.45 ± 0.22	26
	-12	21.80 ± 7.80	37.76 ± 0.18	37.92 ± 0.19	37.46 ± 0.21	26
	-11	19.77 ± 6.83	37.70 ± 0.20	37.87 ± 0.21	37.39 ± 0.22	26
	-10	18.46 ± 6.22	37.59 ± 0.22	37.75 ± 0.25	37.31 ± 0.22	26
	-9	17.99 ± 5.08	37.53 ± 0.17	37.66 ± 0.19	37.29 ± 0.17	26
	-8	16.27 ± 3.98	37.47 ± 0.16	37.59 ± 0.19	37.25 ± 0.18	26
	-7	14.33 ± 3.64	37.37 ± 0.19	37.49 ± 0.19	37.15 ± 0.22	26
	-6	12.81 ± 4.37	37.28 ± 0.18	37.39 ± 0.19	37.08 ± 0.21	26
	-5	10.51 ± 3.37	37.16 ± 0.20	37.29 ± 0.21	36.98 ± 0.21	26
	-4	8.89 ± 2.61	37.00 ± 0.21	37.11 ± 0.22	36.84 ± 0.23	26
	-3	8.10 ± 2.72	36.86 ± 0.21	36.98 ± 0.22	36.71 ± 0.23	26
-2	11.05 ± 5.44	36.78 ± 0.21	36.89 ± 0.21	36.66 ± 0.26	26	
-1	22.24 ± 8.10	36.97 ± 0.35	37.10 ± 0.36	36.72 ± 0.37	26	

The data are expressed as means ± s.d. Sample size varies depending on the day shown in this table.

Supplementary Table 3 Activity changes over the day during baseline, mating and late pregnancy.

Time (h)	Baseline (n)	Mating (n)	Late pregnancy (n)
10	11.12 ± 9.76 (26)	17.54 ± 9.54 (26)	8.86 ± 4.60 (26)
11	6.78 ± 5.29 (26)	12.19 ± 5.91 (26)	5.18 ± 2.64 (26)
12	5.39 ± 2.98 (26)	9.57 ± 6.03 (26)	5.15 ± 2.57 (26)
13	7.34 ± 4.65 (26)	13.44 ± 7.45 (26)	6.32 ± 4.21 (26)
14	4.90 ± 2.40 (26)	10.93 ± 5.94 (26)	5.18 ± 2.89 (26)
15	5.14 ± 2.57 (26)	8.25 ± 4.17 (26)	6.68 ± 3.64 (26)
16	9.00 ± 4.27 (26)	11.80 ± 7.63 (26)	10.97 ± 5.20 (26)
17	12.82 ± 10.98 (26)	16.55 ± 11.74 (26)	12.96 ± 8.42 (26)
18	13.24 ± 11.05 (26)	19.95 ± 13.47 (26)	15.46 ± 7.96 (26)
19	40.07 ± 27.27 (26)	43.47 ± 23.82 (26)	23.60 ± 9.98 (26)
20	58.47 ± 33.54 (26)	53.68 ± 21.83 (26)	23.40 ± 9.25 (26)
21	48.85 ± 33.52 (26)	38.40 ± 17.95 (26)	18.32 ± 8.42 (26)
22	44.57 ± 27.75 (26)	31.23 ± 14.11 (26)	15.43 ± 5.52 (26)
23	42.95 ± 22.94 (26)	31.83 ± 14.28 (26)	17.15 ± 6.00 (26)
0	38.43 ± 19.21 (26)	36.21 ± 14.84 (26)	17.40 ± 7.16 (26)
1	32.48 ± 15.67 (26)	34.53 ± 16.20 (26)	14.57 ± 6.14 (26)
2	22.47 ± 11.34 (26)	29.72 ± 15.04 (26)	12.17 ± 5.03 (26)
3	17.23 ± 8.83 (26)	19.32 ± 12.71 (26)	10.58 ± 4.88 (26)
4	17.88 ± 9.68 (26)	15.04 ± 11.00 (26)	9.66 ± 5.17 (26)
5	17.54 ± 10.17 (26)	18.53 ± 9.60 (26)	10.83 ± 7.08 (26)
6	16.79 ± 8.54 (26)	25.98 ± 14.78 (26)	12.21 ± 6.91 (26)
7	20.16 ± 7.26 (26)	28.08 ± 12.59 (26)	14.27 ± 7.32 (26)
8	16.79 ± 9.83 (26)	33.06 ± 14.27 (26)	13.82 ± 5.07 (26)

The data are expressed as means ± s.d.

Supplementary Table 4. Mean T_b changes of a day during baseline, mating and late pregnancy.

Time (h)	Baseline (n)	Mating (n)	Late pregnancy (n)
10	37.05 ± 0.45 (26)	37.60 ± 0.41 (26)	37.21 ± 0.30 (26)
11	36.71 ± 0.29 (26)	37.32 ± 0.34 (26)	36.98 ± 0.19 (26)
12	36.55 ± 0.29 (26)	37.20 ± 0.37 (26)	36.93 ± 0.19 (26)
13	36.68 ± 0.34 (26)	37.36 ± 0.29 (26)	36.99 ± 0.24 (26)
14	36.64 ± 0.27 (26)	37.29 ± 0.27 (26)	36.94 ± 0.20 (26)
15	36.58 ± 0.30 (26)	37.20 ± 0.32 (26)	36.94 ± 0.21 (26)
16	36.73 ± 0.31 (26)	37.29 ± 0.28 (26)	37.05 ± 0.21 (26)
17	36.94 ± 0.34 (26)	37.44 ± 0.32 (26)	37.13 ± 0.25 (26)
18	37.06 ± 0.34 (26)	37.58 ± 0.34 (26)	37.20 ± 0.23 (26)
19	37.68 ± 0.52 (26)	37.95 ± 0.42 (26)	37.34 ± 0.27 (26)
20	38.11 ± 0.55 (26)	38.11 ± 0.38 (26)	37.37 ± 0.30 (26)
21	37.98 ± 0.53 (26)	37.97 ± 0.30 (26)	37.31 ± 0.25 (26)
22	37.94 ± 0.46 (26)	37.84 ± 0.33 (26)	37.31 ± 0.27 (26)
23	37.95 ± 0.41 (26)	37.87 ± 0.39 (26)	37.27 ± 0.25 (26)
0	37.81 ± 0.35 (26)	37.93 ± 0.26 (26)	37.27 ± 0.25 (26)
1	37.67 ± 0.36 (26)	37.88 ± 0.28 (26)	37.20 ± 0.29 (26)
2	37.40 ± 0.39 (26)	37.79 ± 0.30 (26)	37.13 ± 0.25 (26)
3	37.22 ± 0.36 (26)	37.59 ± 0.26 (26)	37.07 ± 0.27 (26)
4	37.13 ± 0.36 (26)	37.47 ± 0.26 (26)	37.02 ± 0.24 (26)
5	37.08 ± 0.46 (26)	37.56 ± 0.27 (26)	37.05 ± 0.29 (26)
6	37.12 ± 0.53 (26)	37.69 ± 0.32 (26)	37.08 ± 0.32 (26)
7	37.33 ± 0.45 (26)	37.79 ± 0.31 (26)	37.19 ± 0.38 (26)
8	37.22 ± 0.47 (26)	37.93 ± 0.38 (26)	37.21 ± 0.34 (26)

The data are expressed as means ± s.d. Sample sizes (n) are all 26 as shown in this table.

Supplementary Table 5. Active T_b changes of a day during baseline, mating and late pregnancy.

Time (h)	Baseline (n)	Mating (n)	Late pregnancy (n)
10	37.48 ± 0.51 (26)	37.54 ± 0.93 (26)	37.33 ± 0.34 (26)
11	36.96 ± 0.36 (26)	37.66 ± 0.51 (26)	37.14 ± 0.23 (26)
12	36.75 ± 0.38 (26)	37.49 ± 0.46 (26)	37.02 ± 0.23 (26)
13	36.87 ± 0.32 (26)	37.55 ± 0.33 (26)	37.12 ± 0.22 (26)
14	36.85 ± 0.28 (26)	37.52 ± 0.31 (26)	37.02 ± 0.24 (26)
15	36.78 ± 0.28 (26)	37.38 ± 0.32 (26)	37.04 ± 0.24 (26)
16	36.96 ± 0.30 (26)	37.46 ± 0.28 (26)	37.13 ± 0.20 (26)
17	37.19 ± 0.33 (26)	37.55 ± 0.32 (26)	37.21 ± 0.17 (26)
18	37.29 ± 0.30 (26)	37.68 ± 0.33 (26)	37.26 ± 0.22 (26)
19	37.83 ± 0.40 (26)	38.03 ± 0.36 (26)	37.39 ± 0.19 (26)
20	38.20 ± 0.44 (26)	38.15 ± 0.34 (26)	37.36 ± 0.21 (26)
21	38.11 ± 0.40 (26)	38.03 ± 0.29 (26)	37.32 ± 0.19 (26)
22	38.05 ± 0.37 (26)	37.94 ± 0.31 (26)	37.33 ± 0.23 (26)
23	38.06 ± 0.33 (26)	37.97 ± 0.33 (26)	37.30 ± 0.20 (26)
0	37.96 ± 0.28 (26)	38.00 ± 0.21 (26)	37.31 ± 0.16 (26)
1	37.89 ± 0.24 (26)	37.97 ± 0.24 (26)	37.29 ± 0.18 (26)
2	37.66 ± 0.31 (26)	37.91 ± 0.26 (26)	37.20 ± 0.22 (26)
3	37.61 ± 0.29 (26)	37.77 ± 0.27 (26)	37.12 ± 0.22 (26)
4	37.48 ± 0.32 (26)	37.67 ± 0.27 (26)	37.13 ± 0.20 (26)
5	37.40 ± 0.35 (26)	37.75 ± 0.26 (26)	37.11 ± 0.27 (26)
6	37.45 ± 0.42 (26)	37.84 ± 0.27 (26)	37.18 ± 0.28 (26)
7	37.54 ± 0.38 (26)	37.92 ± 0.27 (26)	37.26 ± 0.31 (26)
8	37.48 ± 0.51 (26)	37.96 ± 0.37 (26)	37.30 ± 0.28 (26)

The data are expressed as means ± s.d. Sample sizes (n) are all 26 as shown in this table.

Supplementary Table 6. Inactive T_b changes of a day during baseline, mating and late pregnancy.

Time (h)	Baseline (n)	Mating (n)	Early pregnancy(n)	Late pregnancy (n)
10	36.77 ± 0.38 (26)	37.27 ± 0.36 (26)	37.52 ± 0.28 (26)	37.09 ± 0.28 (26)
11	36.53 ± 0.32 (26)	37.09 ± 0.29 (26)	37.38 ± 0.20 (26)	36.87 ± 0.23 (26)
12	36.42 ± 0.27 (26)	37.00 ± 0.33 (26)	37.37 ± 0.20 (26)	36.88 ± 0.21 (26)
13	36.52 ± 0.34 (26)	37.06 ± 0.34 (26)	37.42 ± 0.21 (26)	36.90 ± 0.27 (26)
14	36.51 ± 0.30 (26)	37.06 ± 0.32 (26)	37.38 ± 0.18 (26)	36.88 ± 0.23 (26)
15	36.48 ± 0.30 (26)	37.06 ± 0.31 (26)	37.36 ± 0.22 (26)	36.84 ± 0.21 (26)
16	36.53 ± 0.29 (26)	37.07 ± 0.33 (26)	37.38 ± 0.21 (26)	36.87 ± 0.24 (26)
17	36.63 ± 0.35 (26)	37.17 ± 0.33 (26)	37.45 ± 0.22 (26)	36.92 ± 0.29 (26)
18	36.78 ± 0.37 (26)	37.26 ± 0.36 (26)	37.46 ± 0.29 (26)	36.93 ± 0.29 (26)
19	37.01 ± 0.48 (26)	37.34 ± 0.43 (25)	37.51 ± 0.29 (24)	37.00 ± 0.32 (26)
20	37.13 ± 0.68 (16)	37.37 ± 0.50 (18)	37.52 ± 0.38 (17)	37.09 ± 0.36 (25)
21	37.11 ± 0.62 (18)	37.47 ± 0.26 (22)	37.49 ± 0.37 (24)	37.15 ± 0.27 (26)
22	37.11 ± 0.47 (18)	37.36 ± 0.36 (26)	37.46 ± 0.30 (24)	37.13 ± 0.26 (26)
23	37.11 ± 0.42 (20)	37.40 ± 0.40 (24)	37.42 ± 0.27 (26)	37.07 ± 0.24 (26)
0	36.87 ± 0.45 (24)	37.37 ± 0.37 (24)	37.42 ± 0.25 (23)	37.00 ± 0.28 (26)
1	36.87 ± 0.48 (24)	37.27 ± 0.49 (21)	37.39 ± 0.28 (22)	36.93 ± 0.27 (26)
2	36.77 ± 0.51 (26)	37.26 ± 0.37 (17)	37.38 ± 0.28 (25)	36.94 ± 0.22 (26)
3	36.73 ± 0.55 (25)	37.24 ± 0.32 (26)	37.37 ± 0.28 (26)	36.90 ± 0.26 (26)
4	36.55 ± 0.42 (26)	37.18 ± 0.31 (26)	37.33 ± 0.24 (26)	36.88 ± 0.28 (26)
5	36.49 ± 0.59 (25)	37.18 ± 0.35 (26)	37.38 ± 0.22 (26)	36.88 ± 0.27 (26)
6	36.57 ± 0.54 (26)	37.19 ± 0.33 (24)	37.35 ± 0.26 (26)	36.97 ± 0.35 (26)
7	36.66 ± 0.47 (26)	37.30 ± 0.37 (22)	37.47 ± 0.30 (22)	36.95 ± 0.35 (26)
8	36.77 ± 0.44 (26)	37.29 ± 0.45 (19)	37.43 ± 0.26 (23)	36.97 ± 0.30 (26)

The data are expressed as means ± s.d. Sample sizes (n) vary from 16 to 26 as shown in this table.