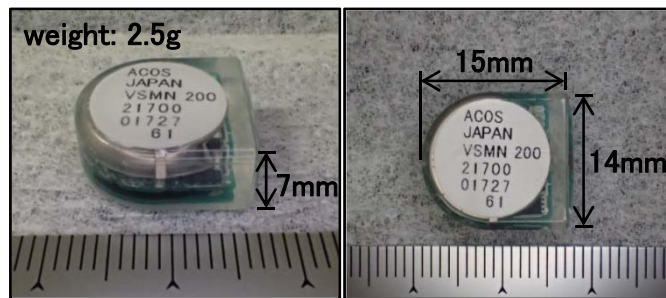
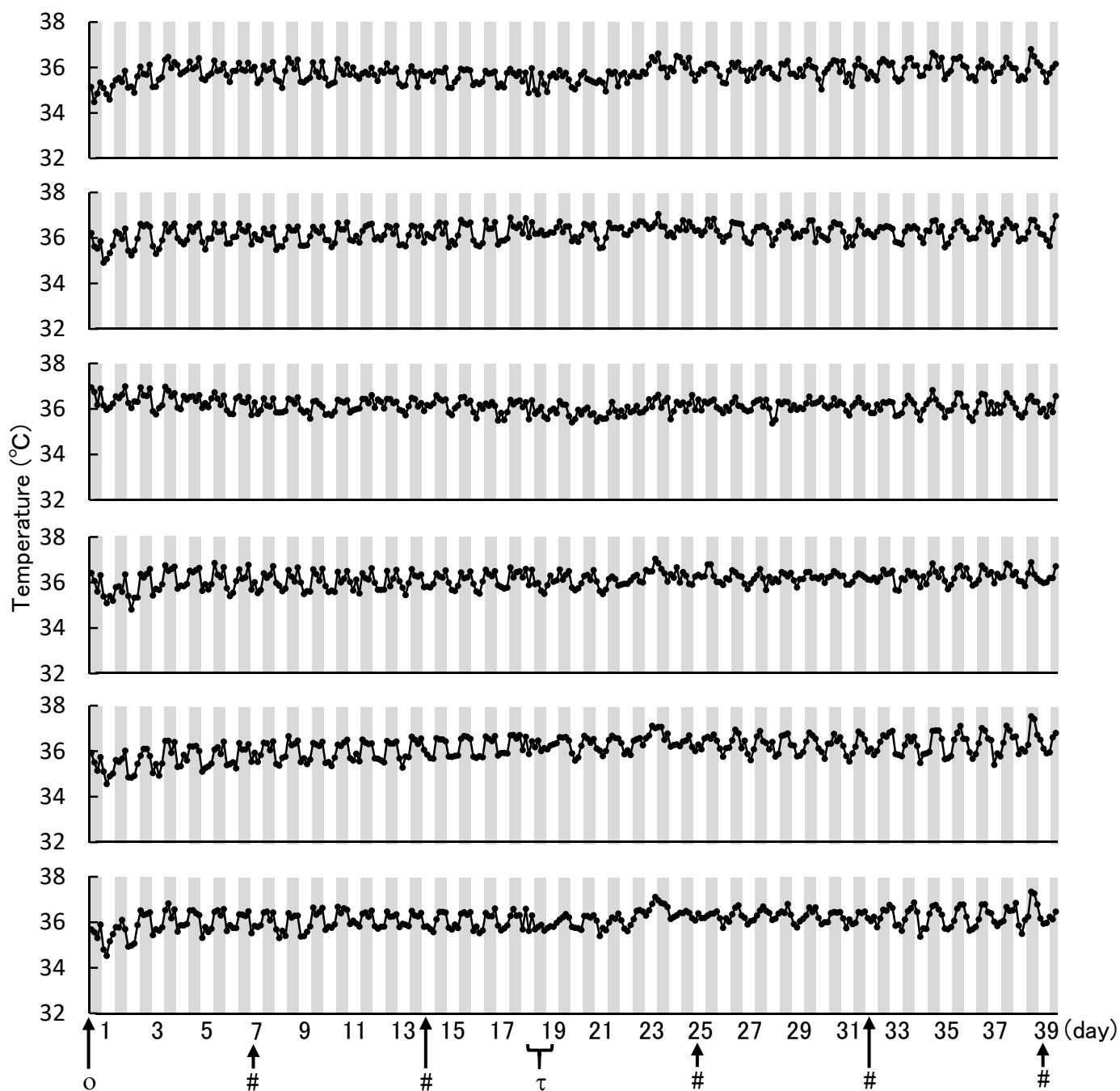


Supplementary Fig. 1. Time-course of the experiment.

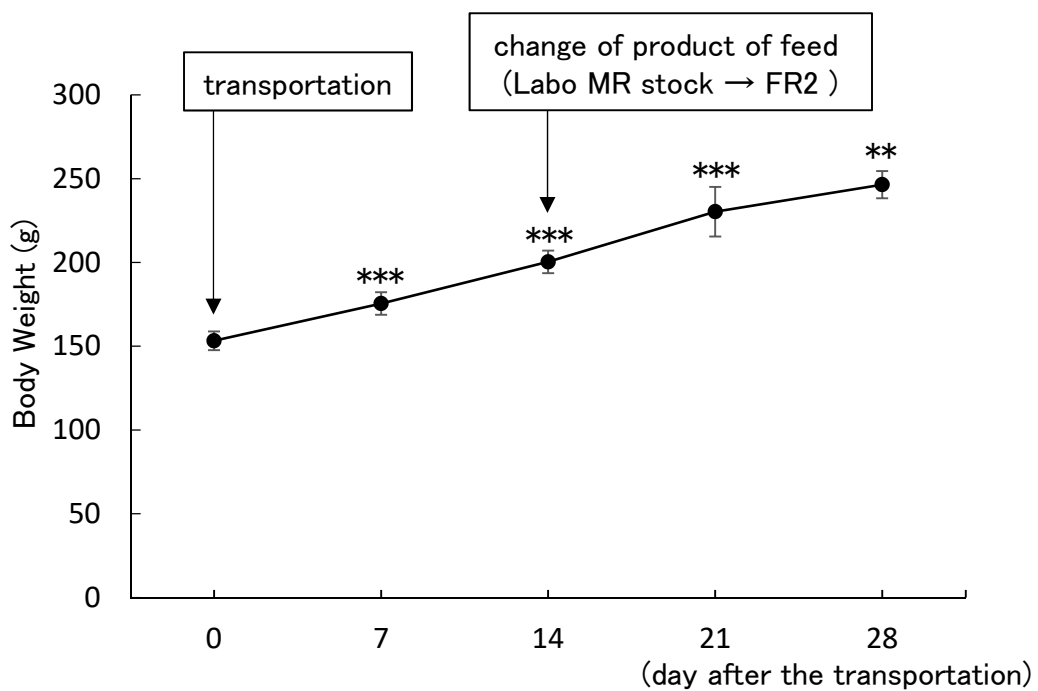


Supplementary Fig. 2. Appearance and weight of the nano tag®



Supplementary Fig. 3. Continuous temperature measurements for each rat during the convalescence and acclimation periods.

Temperature of the device every 3 h. Dark-filled and non-filled areas in the graphs indicate the dark and light phases, respectively. The cross axle indicates the day after the operation. Each point is shown as o: operation; #: cage exchange; τ : transportation.



Supplementary Fig. 4. Growth curve of the nano tag® non-implanted rats

Body weight measurements during the experiment (means \pm SD). Nine male rats (F344/NSlc, 8 weeks of age, nano tag® non-implanted) were transported from Japan SLC to Shinshu University and then body weights were measured once a week. Product of feed was changed (Labo MR stock to FR2) in 14 days after the transit. **: $p < 0.01$; ***: $p < 0.001$, compared with each preceding measurement: Tukey-Kramer test. Each point $n = 9$.

A

	P-value
day -7 vs. day 0	P<0.001
day -7 vs. day 7	P<0.001
day -7 vs. day 14	P<0.001
day -7 vs. day 18	P<0.001
day -7 vs. day 25	P<0.001
day -7 vs. day 32	P<0.001
day -7 vs. day 39	P<0.001
day 0 vs. day 7	P<0.001
day 0 vs. day 14	P<0.001
day 0 vs. day 18	P<0.001
day 0 vs. day 25	P<0.001
day 0 vs. day 32	P<0.001
day 0 vs. day 39	P<0.001
day 7 vs. day 14	P<0.001
day 7 vs. day 18	P<0.001
day 7 vs. day 25	P<0.001
day 7 vs. day 32	P<0.001
day 7 vs. day 39	P<0.001
day 14 vs. day 18	P<0.05
day 14 vs. day 25	NS
day 14 vs. day 32	P<0.001
day 14 vs. day 39	P<0.001
day 18 vs. day 25	NS
day 18 vs. day 32	P<0.001
day 18 vs. day 39	P<0.001
day 25 vs. day 32	P<0.001
day 25 vs. day 39	P<0.001
day 32 vs. day 39	P<0.05

B

	P-value
day 0 vs. day 7	P<0.001
day 0 vs. day 14	P<0.001
day 0 vs. day 21	P<0.001
day 0 vs. day 28	P<0.001
day 7 vs. day 14	P<0.001
day 7 vs. day 21	P<0.001
day 7 vs. day 28	P<0.001
day 14 vs. day 21	P<0.001
day 14 vs. day 28	P<0.001
day 21 vs. day 28	P<0.01

Supplementary Table 1. P-values of growth curves

P-values of growth curve of rats after the operation (Fig. 5) (A) and growth curve of the nano tag® non-implanted rats (Supplementary Fig. 4) (B). Compared with each points: Tukey-Kramer test. Each point n=6 (A) or 9 (B).

	P-value of F-test
9:00	NS
10:00	NS
11:00	P<0.05
12:00	P<0.05
13:00	P<0.001
14:00	NS
15:00	P<0.05
16:00	NS
17:00	NS
18:00	NS
19:00	NS
20:00	NS
21:00	NS
22:00	NS
23:00	P<0.01
0:00	NS
1:00	NS
2:00	NS
3:00	NS
4:00	P<0.05
5:00	NS
6:00	NS
7:00	P<0.05
8:00	P<0.05

Supplementary Table 2. P-values of F-test about locomotor activity after cage exchange

P-values of F-test about Fig. 4, compared between the same times on the day of cage exchange and 6 days after the event. P<0.05, P<0.01, and P<0.001 indicate different variances. Each group n = 6.