

**Supplementary Table 4.** Post-hoc analysis for 2-way repeated measures ANOVA on female mouse averaged food intake per cage. Data are shown in Figure 3E and 3F.

Female	Sidak's post-hoc analysis for averaged Food intake/cage			
	Genotype Pomc <sup>wt/wt</sup> LF v Pomc <sup>tm1/tm1</sup> LF	Genotype Pomc <sup>wt/wt</sup> HF v Pomc <sup>tm1/tm1</sup> HF	Diet Pomc <sup>wt/wt</sup> LF v Pomc <sup>wt/wt</sup> HF	Diet Pomc <sup>tm1/tm1</sup> LF v Pomc <sup>tm1/tm1</sup> HF
<b>Days on Diet</b>	F (1,4) = 6.487 P = 0.0635	F (1,4) = 32.07 P = 0.0048	F (1,4) = 35.56 P = 0.0040	F (1,4) = 9.801 P = 0.0352
2	ns	ns	p < 0.0001	p < 0.001
4	ns	ns	p < 0.0001	ns
7	ns	ns	p < 0.0001	p < 0.05
9	ns	ns	ns	ns
11	ns	ns	p < 0.001	ns
14	ns	ns	P < 0.001	ns
16	ns	ns	ns	ns
18	ns	p < 0.05	p < 0.05	ns
21	ns	ns	p < 0.001	ns
23	ns	ns	ns	ns
25	ns	ns	p < 0.001	ns
28	ns	ns	P < 0.0001	ns
30	ns	ns	ns	ns
32	ns	p < 0.01	ns	ns
35	ns	ns	p < 0.001	ns
<b>Weeks on Diet</b>	F (1,4) = 2.84 P = 0.1672	F (1,4) = 17.57 P = 0.0138	F (1,4) = 8.168 P = 0.0460	F (1,4) = 19.92 P = 0.0111
1	ns	ns	ns	ns
2	ns	ns	ns	ns
3	ns	ns	ns	ns
4	ns	ns	ns	ns
5	ns	ns	ns	ns
6	ns	ns	ns	ns
7	ns	ns	ns	ns
8	ns	ns	ns	ns
9	ns	ns	ns	ns
10	ns	ns	ns	ns
11	ns	ns	ns	ns
12	ns	ns	ns	ns
13	ns	ns	ns	ns
14	ns	ns	ns	ns
15	ns	ns	ns	ns
16	ns	ns	ns	ns