



Figure S1. Kurt particle size analysis of polystyrene microplastic microspheres. (data provided by Tianjin Bessler chromatographic Technology Development Center)

Table S1. Average food intake of mice

Weeks	Food intakes (g/d)			
	ND + water	ND + MP	HFD + water	HFD + MP
1-2	2.54 ± 0.09 ^a	2.51 ± 0.08 ^a	7.17 ± 1.31 ^b	8.04 ± 0.34 ^b
3-4	2.31 ± 0.10 ^a	2.13 ± 0.13 ^a	5.15 ± 0.44 ^b	4.71 ± 0.49 ^b
5-6	2.46 ± 0.13 ^a	2.29 ± 0.12 ^a	4.94 ± 0.37 ^b	4.41 ± 0.32 ^b
7-8	2.94 ± 0.13 ^a	2.94 ± 0.15 ^a	5.68 ± 0.20 ^b	5.40 ± 0.49 ^b
9-10	2.30 ± 0.10 ^a	2.18 ± 0.10 ^a	4.70 ± 0.54 ^b	4.10 ± 0.40 ^b
11-12	2.67 ± 0.07 ^a	2.58 ± 0.13 ^a	3.82 ± 0.18 ^b	3.81 ± 0.42 ^b
13-14	2.56 ± 0.12 ^a	2.44 ± 0.11 ^a	3.82 ± 0.06 ^b	3.31 ± 0.19 ^b
Total	248.85 ± 9.12 ^a	238.94 ± 11.22 ^a	493.87 ± 6.22 ^b	472.83 ± 24.89 ^b

Different letters indicate that there is statistical significance in comparison between groups, $P < 0.05$

Table S2. Average energy intake of mice

Weeks	Calorie intakes (kcal/d)			
	ND + water	ND + MP	HFD + water	HFD + MP
1-2	9.76 ± 0.34 ^a	9.67 ± 0.32 ^a	37.55 ± 6.87 ^b	42.14 ± 1.80 ^b
3-4	8.90 ± 0.37 ^a	8.20 ± 0.50 ^a	27.00 ± 2.28 ^b	24.69 ± 2.56 ^b
5-6	9.47 ± 0.49 ^a	8.83 ± 0.48 ^a	25.88 ± 1.92 ^b	23.11 ± 1.69 ^b
7-8	11.32 ± 0.49 ^a	11.31 ± 0.57 ^a	29.78 ± 1.06 ^b	28.29 ± 2.56 ^b
9-10	8.84 ± 0.40 ^a	8.38 ± 0.38 ^a	24.61 ± 2.85 ^b	21.46 ± 2.07 ^b
11-12	10.29 ± 0.29 ^a	9.92 ± 0.49 ^a	20.03 ± 0.93 ^b	19.95 ± 2.21 ^b
13-14	9.85 ± 0.45 ^a	9.39 ± 0.43 ^a	20.00 ± 0.29 ^b	17.33 ± 0.99 ^b
Total	958.07 ± 35.12 ^a	919.93 ± 43.19 ^a	2587.86 ± 32.57 ^b	2477.65 ± 130.42 ^b

Different letters indicate that there is statistical significance in comparison between groups, $P < 0.05$

Table S3. Absolute weight of mouse viscera and tissue.

Organ	Absolute weights (g)			
	ND + water	ND + MP	HFD + water	HFD + MP
Liver	0.84 ± 0.08 ^a	0.82 ± 0.11 ^a	1.09 ± 0.30 ^a	1.12 ± 0.47 ^a
Pancreas	0.10 ± 0.02 ^a	0.09 ± 0.02 ^a	0.14 ± 0.04 ^b	0.15 ± 0.04 ^b
Fat	0.38 ± 0.12 ^a	0.44 ± 0.10 ^a	1.89 ± 0.89 ^b	2.23 ± 0.41 ^b
Caecum	0.23 ± 0.07 ^a	0.22 ± 0.05 ^a	0.18 ± 0.04 ^b	0.20 ± 0.05 ^b

Different letters indicate that there is statistical significance in comparison between groups, $P < 0.05$

Table. S4. Relative weight of organs and tissues in mice.

Organ	Relative weights (g)			
	ND + water	ND + MP	HFD + water	HFD + MP
Liver	3.27 ± 0.14 ^a	3.13 ± 0.26 ^a	2.83 ± 0.46 ^a	2.76 ± 0.70 ^a
Pancreas	0.40 ± 0.10 ^a	0.36 ± 0.06 ^a	0.36 ± 0.12 ^b	0.37 ± 0.08 ^b
Fat	1.45 ± 0.49 ^a	1.61 ± 0.49 ^a	4.83 ± 1.95 ^b	5.73 ± 1.00 ^b
Caecum	0.89 ± 0.20 ^a	0.83 ± 0.14 ^a	0.47 ± 0.14 ^b	0.52 ± 0.15 ^b

Different letters indicate that there is statistical significance in comparison between groups, $P < 0.05$