Supporting Information

Polystyrene microplastics could aggravate the disruption of OA on intestinal microenvironment

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Figure S1 The SEM image of MPs

Figure S2 The relative abundance of bacteria taxa at phylum (A) and genus (B) level after exposure of MPs and OA (n = 3). All data represent the mean ± SEM.

Table S1 Characterization of MPs

Table S2 Primer sequences for qPCR.

Table S3 Dissimilarity test between groups based on Bray-Curtis distance (n=3)

Figure S1 The SEM image of MPs

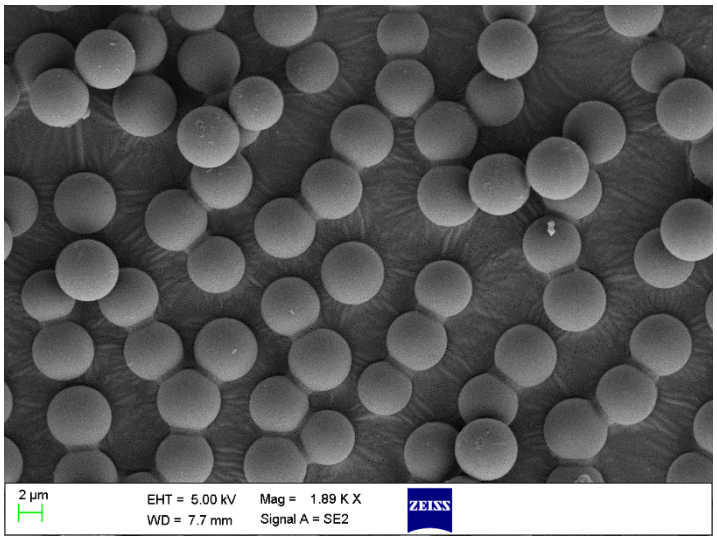


Figure S2 The relative abundance of bacteria taxa at phylum (A) and genus (B) level after exposure of MPs and OA (n = 3). All data represent the mean ± SEM.

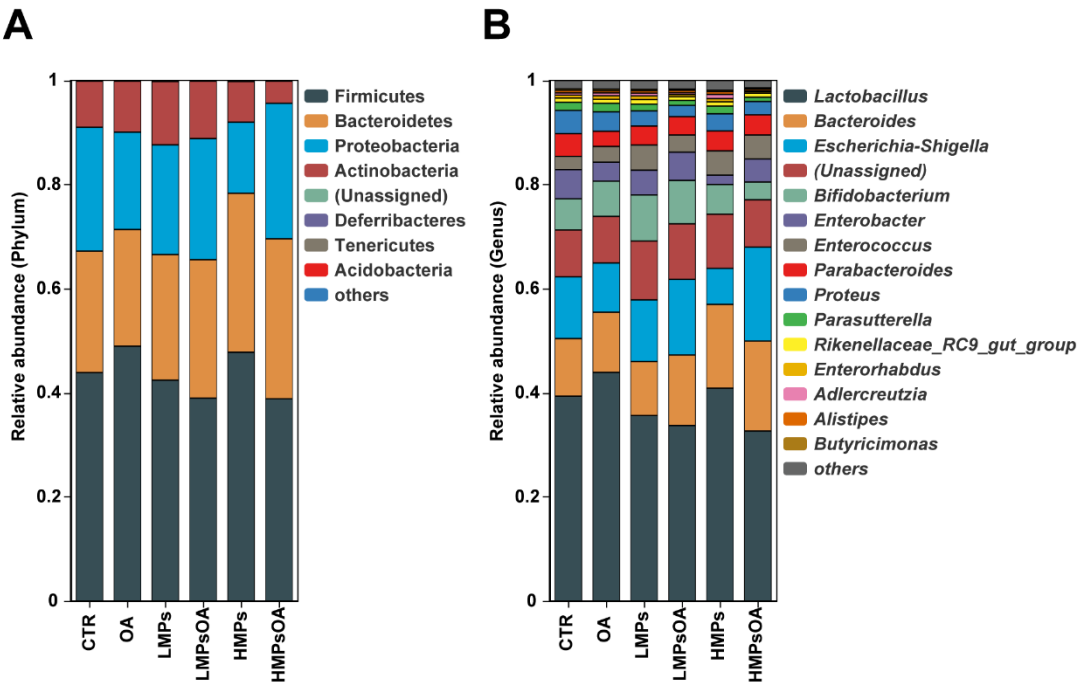


Table S1 Characterization of MPs

MPs (distributed in PBS)	
Mean	5.501 μm
Median	5.233 μm
Mode	4.982 μm
S. D	1.603 μm
C. V	29.1 %
Zeta Potential (mV)	-10.64±2.27

Table S2 Primer sequences for qPCR.

Genes	Gene description	Primer sequence (5'-3')	Products size (bp)
18S rna	ribosomal protein S18 (RPS18)	F: GATGGAAAATACAGCCAGGTCCTA R: TTCTTCAGTCGCTCCAGGTCTT	74
B2m	beta-2 microglobulin	F: GGTTTCATCCATCCGACATT R: GGCAGGCATACTCATCTTTTTC	156
Si	sucrase-isomaltase	F: TGGTGGCACTGTTATCCGAC R: GACCACCACGGACATGTAGG	257
Slc15a1	solute carrier family 15 member 1	F: CTTCGATGCTGTGCTGTACC R: GGCCAAGTGTCACCATCTCT	242
Alpi	alkaline phosphatase, intestinal	F: GTCCATCCTGTACGGCAATG R: ACATGCGCTACGAAGCTCTG	216
Cldn2	claudin 2	F: TACTCACCACTGGTGCCTGA R: GAGAGCTCCTTGTGGCAAGA	184
Ocln	occludin	F: ACAGACTACACAACTGGCGG R: GCAGCAGCCATGTACTCTTC	236
Zo-1	tight junction protein 1	F: GAGAGGTGTTCCGTGTTGTG R: GCTGCGAAGACCTCTGAATC	209
IL-8	interleukin 8	F: GAGATAATGCACCCCGGACC R: TGTTCTCACAGGAGAGAGTTGA	120
IL-18	interleukin 18	F: ATCGCTTCCTCTCGCAACAA R: CTTCTACTGGTTCAGCAGCCATCT	85

Table S3 Dissimilarity test between groups based on Bray-Curtis distance (n=3)

Dissimilarity test (Compared with CTR)	Adonis		Amova	
	R2	*p*-value	Fs	*p*-value
CTR vs OA	0.192	0.6	-0.00021	0.594
CTR vs LMPs	0.286	0.3	0.00299	0.299
CTR vs LMP + OA	0.284	0.2	0.00475	0.199
CTR vs HMPs	0.533	0.1	0.016	0.102
CTR vs HMP + OA	0.366	0.1	0.00987	0.101

R2 represents the interpretation degree of sample differences between groups. Fs indicates F test value.