

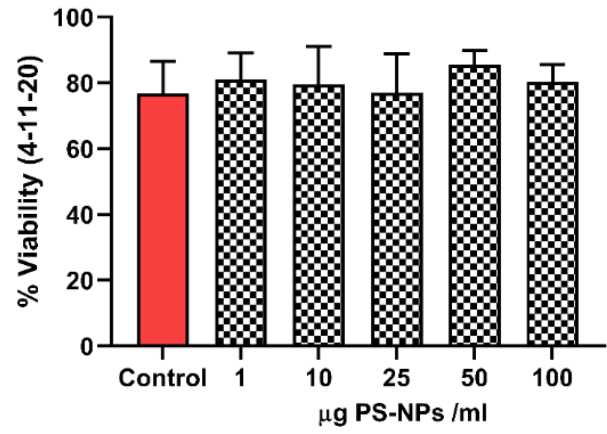
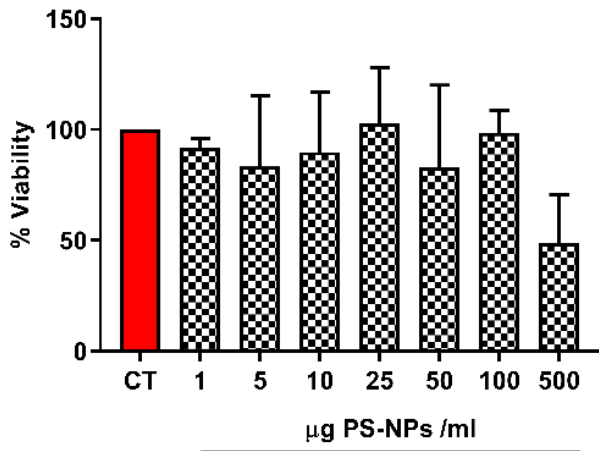
Supplementary Table 1

Non-labelled Polystyrene nanoplastics		Ultrapure water	DMEM
Size (nm)	0h	43.24 ± 0.7502	49.90 ± 0.7596
	24h	46.83 ± 1.393	65.31 ± 1.154
Zeta potential (mV)	0h	-15.7 ± 1.232	-14.0 ± 1.30
	24h	-15.4 ± 0.932	-18.0 ± 0.70
PDI	0h	0.093 ± 0.017	0.095 ± 0.0145
	24h	0.048 ± 0.0224	0.195 ± 0.00427

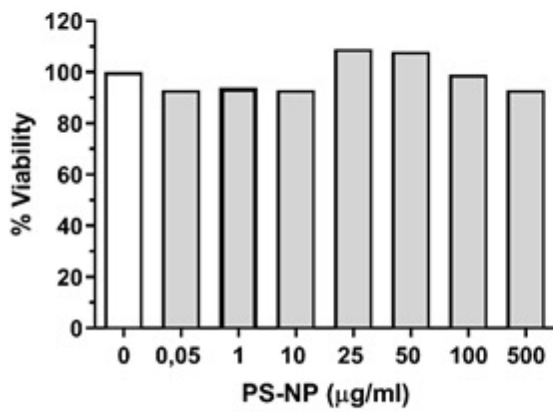
Fluorescent Polystyrene nanoplastics		Ultrapure water	DMEM
Size (nm)	0h	64.12 ± 0.66	78.55 ± 0.94
	24h	65.1 ± 0.6	71.3 ± 0.5
Zeta potential (mV)	0h	-15.01 ± 0.954	-20.52 ± 1.103
	24h	-23.6	-20.6
PDI	0h	0.0299 ± 0.011	0.1432 ± 0.014
	24h	0.03	0.05

Supplementary Figure 1

a



b



Supplementary Table 2

Gene	Acronym	Primer sequence (5' to 3')	Tm (°C)	Size product	Acc. ID
<i>Growth Arrest Specific 7</i>	<i>gas7</i>	F: ATCATCACATCGCAGAACTACG R: TCGTATCATCTCCACCCTCTC	F: 63.9 R: 63.0	264	XM_0369
<i>β-actin</i>	<i>β-actin</i>	F: ATGGAAGATGAAATCGCC R: TGCCAGATCTTCTCCATG	F: 62.5 R: 59.9	224	AJ438
<i>Elongation factor 1 alpha</i>	<i>ef1α</i>	F: CAAGGATATCCGTCGTGGCA R: ACAGCGAAACGACCAAGAGG	F: 68.1 R: 66.5	287	NM_0011
<i>Peroxisome proliferator-activated receptor α</i>	<i>ppar α</i>	F: CTGGAGCTGGATGACAGTGA R: AAGTTTTTGCAGCAGATTGG	F: 64.5 R: 61.8	148	AY494
<i>Peroxisome proliferator-activated receptor β</i>	<i>ppar β</i>	F: CTGGAGCTGGATGACAGTGA R: GTCAGCCATCTTGTTGAGCA	F: 64.3 R: 64.1	155	NM_0011
<i>Peroxisome proliferator-activated receptor γ</i>	<i>ppar γ</i>	F: GCCAGTACTGTCGCTTTCAGA R: TCCATAAACTCAGCCTGCAG	F: 62.6 R: 63.0	72	HM536
<i>Interleukin 1β</i>	<i>il1β</i>	F: GGAGGCAGCAGCTACCACAAA R: CCGATTTGGAGCAGGACAGG	F: 68.6 R: 69	92	NM_0011
<i>Interleukin 6</i>	<i>il6</i>	F: TTTCAGAAGCCCGTGGAAGAGA R: TCTTTGACCAGCCCTATCAGCA	F: 69.1 R: 67.9	195	DQ86
<i>Interleukin 10</i>	<i>il10</i>	F: CGACTTTAAATCTCCCATCGAC R: GCATTGGACGATCTCTTTCTT	F: 63.5 R: 62.1	27	AB11
<i>Interleukin 12</i>	<i>il12</i>	F: ACGCACTTGACAGGAACAC R: CCCCTTCAACACTTTACACA	F: 66.4 R: 60.1	363	HG917
<i>Tumour necrosis factor α</i>	<i>tnfa</i>	F: AGCATGGAAGACCGTCAACGAT R: ACCCTCTAAATGGATGGCTGCTT	F: 68.9 R: 67.5	86	AJ27
<i>Matrix metalloproteinase 9</i>	<i>mmp9</i>	F: TTCCAATTCAAGGGCAACTC R: TCAGCCCCCACAGTTAAGAG	F: 63.9 R: 64.1	96	NM_0011
<i>Cathepsin D</i>	<i>cathepsin D</i>	F: GCCTGTCATCACATTCAACCTG R: GCCACTCAGGCAGATGGTCTTA	F: 66.7 R: 67.5	59	U903
<i>Cyclooxygenase 2</i>	<i>cox2</i>	F: CACCAAGCAAATCGCTGGA	F: 67.3	111	AJ23

Supplementary Table 3

MACROPHAGE PHENOTYPES			
M1	M2	References	PS-NPs macrophages
+ IL1b / IFN-γ	- IL1b / IFN-γ	(He et al., 2021; Yunna et al., 2020)	- IL1b / IFN-γ / CCL4 / CD209
+ IL2	- IL2	(Yunna et al., 2020)	? IL2 n.d.
- IL4	+ IL4	(Castro et al., 2011; Yunna et al., 2020)	? IL4 n.d.
+ IL6	- IL6	(Yunna et al., 2020)	- IL6
- IL10	+ IL10	(Yunna et al., 2020)	+ IL10
+ IL12	- IL12	(Yunna et al., 2020)	- IL12
- IL13	- IL13	(Yunna et al., 2020)	? IL13 n.d.
- TGFβ	+ TGFβ	(Castro et al., 2011)	? TGFβ n.d.
+ COX2	- COX2	(Castro et al., 2011)	- COX2
+ ROS	- ROS	(He et al., 2021)	- ROS
- Arginase 2	+ Arginase 2	(Yunna et al., 2020)	- Arginase 2
+ CD80 / CD86 / CD16 / 32	- CD80 / CD86 / CD16 / 32	(Yunna et al., 2020)	? CD80 / CD86 / CD16 / 32 n.d.
- CD36	+ CD36	(Toobian et al., 2021)	+ CD36
- CD86 / CD206	+ CD86 / CD206	(Yunna et al., 2020)	? CD86 / CD206 n.d.
- CCL17 / CCL22	+ CCL17 / CCL22	(Yunna et al., 2020)	? CCL17 / CCL22 n.d.
+ CCL25	- CCL25	(Xuan et al., 2015)	+ CCL25
- Akt1	+ Akt1	(Yunna et al., 2020)	- Akt1 (non significant)
+ Akt2	- Akt2	(Yunna et al., 2020)	+ Akt2 (non significant)
+ PPARα	- PPARα	(Toobian et al., 2021)	- PPARα
- PPARγ	+ PPARγ	(Toobian et al., 2021)	- PPARγ
- PPARβ	+ PPARβ	(Murray, 2017)	+ PPARβ
- Perilipin 2	+ Perilipin 2	(Caslin et al., 2020)	+ Perilipin 2
- Fatty acid oxidation	+ Fatty acid oxidation	(Yunna et al., 2020)	+ Fatty acid oxidation
+ Aerobic glycolysis	- Aerobic glycolysis	(Yunna et al., 2020)	- Aerobic glycolysis
+ Cathepsin B, D / procathepsin L	- Cathepsin B, D / procathepsin L	(Fang et al., 2020; Hausmann et al., 2004; Wolf et al., 2003)	+ Cathepsin B, D / procathepsin L
- MMP9	+ MMP9	(Li et al., 2020; Nagase et al., 2006; Odaka et al., 2005)	+ MMP9