

Data underlying the publication 'Uptake and toxicity of polystyrene micro/nanoplastics in gastric cells: Effects of particle size and surface functionalization'

Abbreviation used:

BAX = Bcl-2 associated X

Bcl-2 = B-cell lymphoma 2

LPS = lipopolysaccharide

N = number of measurements collected

NF = Non-functionalized particles

TNF- α = Tumor necrosis factor α

SD = standard deviation

Figure 1 dataset is the data collected to determine uptake of 50, 100 and 1000 nm polystyrene particles with amine, carboxyl or no surface functionalization by SNU-1 cells. The cells were treated with the particles for 4 h and percent uptake was quantitated using flow cytometry. The mean and SD of various treatments is provided.

Figure 3 dataset is the data collected to determine viability of SNU-1 cells after treatment with 50, 100, 200, 500, 1000 and 5000 nm polystyrene particles with amine, carboxyl or no surface functionalization. Cells were treated for 1, 2, 4, 6 or 24 h and alamar Blue toxicity assay was conducted to determine cytotoxicity. Data is represented as percentage viability normalized to blank. The mean and SD of the measured endpoints is provided.

Figure 4 dataset is the data collected to determine Caspase-8 content in SNU-1 cells after treatment with 50, 100, 200, 500, 1000 and 5000 nm polystyrene particles with amine, carboxyl or no surface functionalization. Cells were treated for 4 h and Caspase-8 content was determined using commercially available kit. Data is represented as fold increase in Caspase-8 content compared to blank. The mean and SD of the measured endpoints is provided.

Figure 5 dataset is the data collected to determine apoptosis-necrosis in SNU-1 cells induced by 50, 100, 200, 500, 1000 and 5000 nm polystyrene particles with amine, carboxyl or no surface functionalization. Cells were treated for 4 h and percent apoptotic-necrotic cells was determined using flow cytometry. The mean and SD of the measured endpoints is provided.

SI Figure 1 dataset is the data collected to determine viability of SNU-1 cells after treatment with 0.0025% Tween 20. Cells were treated for 1, 2, 4 or 6 h and alamar Blue toxicity assay was conducted to determine cytotoxicity. Data is represented as fluorescence units.

SI Figure 5 dataset is the data collected to determine inflammatory response in SNU-1 cells after treatment with 0, 10, 100 or 1000 ng/mL LPS for 4, 6 or 12 h. Concentrations of TNF- α were measured after treatment using commercially available kit and data normalized to protein content that was measured using Bradford assay. Data represents TNF- α concentrations as pg/mg protein. The mean and SD of the measured endpoints is provided.

SI Figure 6 dataset is the data collected to determine BAX levels in cells after treatment with 50, 100, 200, 500, 1000 and 5000 nm polystyrene particles with amine, carboxyl or no surface functionalization. Cells were treated for 4 h and BAX content was determined using commercially available kit and data normalized to protein content that was measured using Bradford assay. Data is represented as fold increase in BAX concentrations as ng/mg protein. The mean and SD of the measured endpoints is provided.

SI Figure 7 dataset is the data collected to determine Bcl-2 levels in cells after treatment with 50, 100, 200, 500, 1000 and 5000 nm polystyrene particles with amine, carboxyl or no surface functionalization. Cells were treated for 4 h and Bcl-2 content was determined using commercially available kit and data normalized to protein content that was measured using Bradford assay. Data is represented as fold increase in Bcl-2 concentrations as ng/mg protein. The mean and SD of the measured endpoints is provided.

SI Figure 8 dataset is the data collected to determine Caspase-3 content in SNU-1 cells after treatment with 50, 100, 200, 500, 1000 and 5000 nm polystyrene particles with amine, carboxyl or no surface functionalization. Cells were treated for 4 h and Caspase-3 content was determined using commercially available kit. Data is represented as fold increase in Caspase-3 content compared to blank. The mean and SD of the measured endpoints is provided.

SI Figure 10 dataset is the data collected to determine apoptosis-necrosis in SNU-1 cells induced by 50, 100, 200, 500, 1000 and 5000 nm polystyrene particles with amine, carboxyl or no surface functionalization. Cells were treated for 24 h and percent apoptotic-necrotic cells was determined using flow cytometry. The mean and SD of the measured endpoints is provided.