Supplementary information (SI)

1. Synthesis of Humic Acid Like Polycondensate (HALP)

HALP was produced by the oxidative polymerization of gallic acid (GA) and protocatechuic acid (PA) in molar ratio 1:1 according to Giannakopoulos et al. (2009). The polymerization was carried out in aqueous solution bubbled with air. The redox potential was continuously monitored by the redox electrode. More specifically, for a 1:1 mol solution, 31.47 g of GA and 28.53 g of PA, were suspended in 3 L of milli-Q water and the mixture was continuously stirred for 12h at 26 ^{0}C in a closed glass jar, under controlled air bubbling. The pH of the mixture was adjusted at pH 10.5 with NaOH. The mixture was further bubbled with a continuous flow of natural air under stirring for up to 10 days. During that period, the initially transparent, reaction mixture, turned to green and then to a dark-brown/black color. After the polymerization procedure, the IHSS procedure for HA isolation was applied. In brief, the pH of the mixture was adjusted to >1 with HCl and the solution was allowed to precipitate for 72 h. The precipitate obtained after centrifugation at 4000 g / 15 min, was washed with Milli-Q water to remove monomer residues and Cl^-, and finally freeze-dried at 66 ^{0}C with a CHRIST-ALPHA 1-2LD freeze drier (Giannakopoulos et al. 2009).

2. Procedure for slide preparation (CBMN assay)

72 h after the initiation of culture, cells were harvested and collected by centrifugation. A mild hypotonic treatment with 3:1 solution of Ham's medium and milli-q H_2O was left for 3 min at room temperature which was followed by 10 min fixation (for at least 3 times) with a fresh 5:1 solution of methanol/acetic acid. Cells were stained with 7% Giemsa (Vlastos et al. 2010).

3. Data on the size ratio of MN (‰) induced by MWCNTs

Data on the size ratio of MN (‰) induced by MWCNTs are presented in Figures S1 and S2. Compared to the control size ratio of MN, an over one and a half and over two fold increase

in small size MN frequency as well as an over one and a half and over three fold increase in large MN frequency was observed in both set of experiments. Statistically significant induction in large size MN frequency was observed only at the concentration of 15 μg/ml in the first set of experiments.

Figure S1.

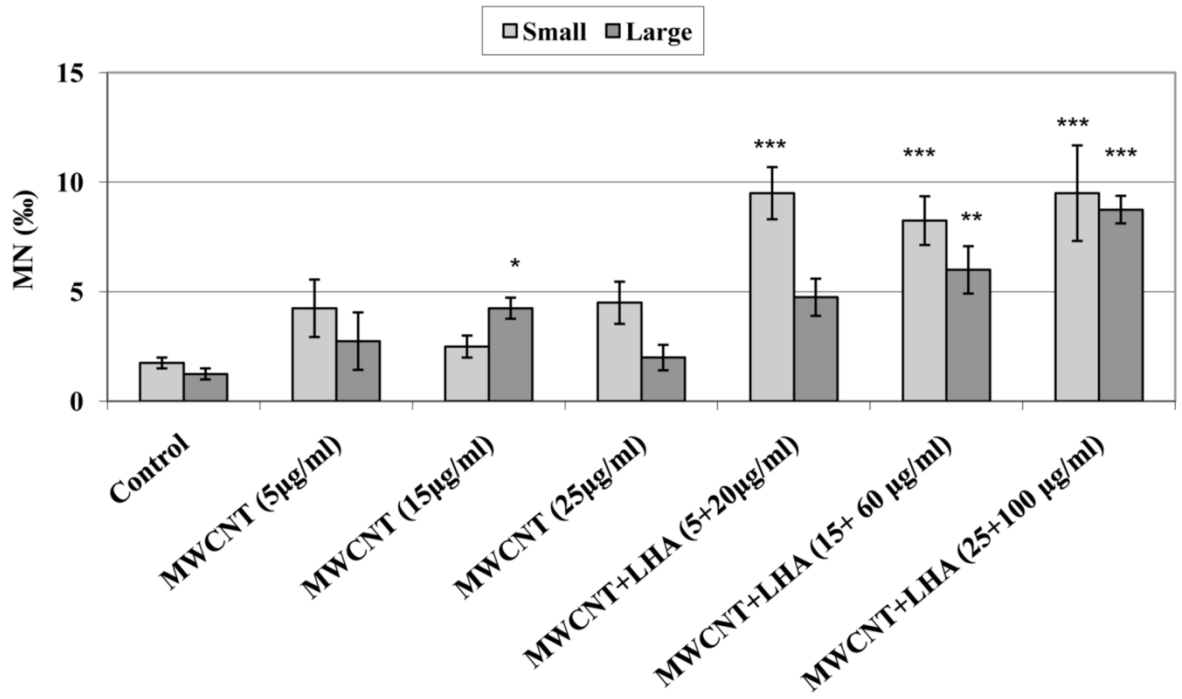

Figure S1. Mean frequencies (‰) of MN per size, of MWCNT+LHA.MN, micronuclei; MWCNTs, multi-walled carbon nanotubes; LHA, Leonardite humic acid; 4000 binucleated cells scored per experimental point; *p<0.05, **p<0.01, ***p<0.001 [G-test for MN]

Figure S2.

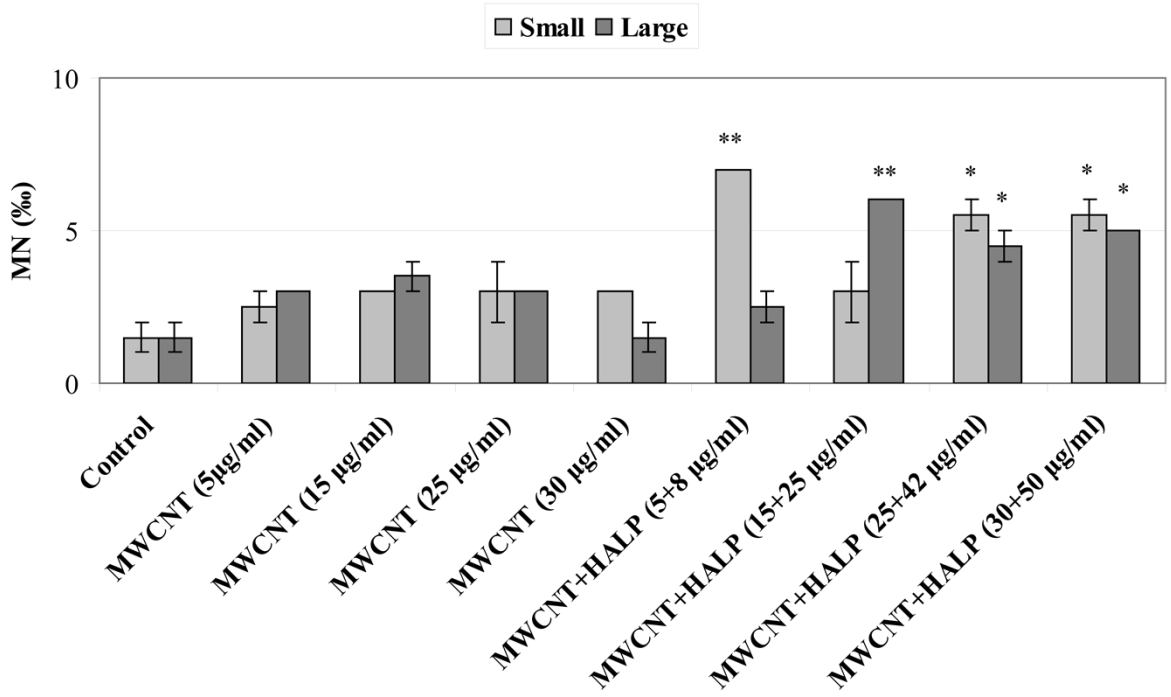

Figure S2. Mean frequencies (‰) of MN per size, of MWCNT+HALP. MN, micronuclei; MWCNTs, multi-walled carbon nanotubes; HALP, Humic-acid-like polycondensates; 2000 binucleated cells scored per experimental point; *p<0.05, **p<0.01 [G-test for MN]