

Supplementary Information

Antagonistic role of Al³⁺ against PM_{2.5}-induced neurotoxicity via suppression of NADPH oxidase-triggered oxidative stress

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Table S1. Content analysis of PM_{2.5} particles.

Samples	Al ³⁺ (mg/g)	Bap (mg/g)	Pb ²⁺ (mg/g)	As(III) (mg/g)	Cr(VI) (mg/g)
GZ-PM _{2.5}	34.8	1.01	5.54	1.09	1.52
CNP	0.00	0.00	0.00	0.00	0.00
C-Al	32.35	0.00	0.00	0.00	0.00
C-Bap	0.00	1.01	0.00	0.00	0.00
C-Pb	0.00	0.00	4.37	0.00	0.00
C-As	0.00	0.00	0.00	0.84	0.00
C-Cr	0.00	0.00	0.00	0.00	1.30
C-Al-Bap	33.91	1.01	0.00	0.00	0.00
C-Al-Pb	32.71	0.00	4.37	0.00	0.00
C-Al-As	32.95	0.00	0.00	0.84	0.00
C-Al-Cr	33.87	0.00	0.00	0.00	1.03
C-Bap-Pb	0.00	1.01	5.01	0.00	0.00
C-Bap-As	0.00	1.01	0.00	0.73	0.00
C-Bap-Cr	0.00	1.01	0.00	0.00	1.10
C-Pb-As	0.00	0.00	5.24	0.79	0.00
C-Pb-Cr	0.00	0.00	5.80	0.00	1.38
C-As-Cr	0.00	0.00	0.00	1.01	1.10
C-Bap-Pb-As-Cr	0.00	1.01	6.24	0.89	1.48
C-Al-Bap-Pb-As-Cr	32.47	1.01	6.19	0.90	1.49

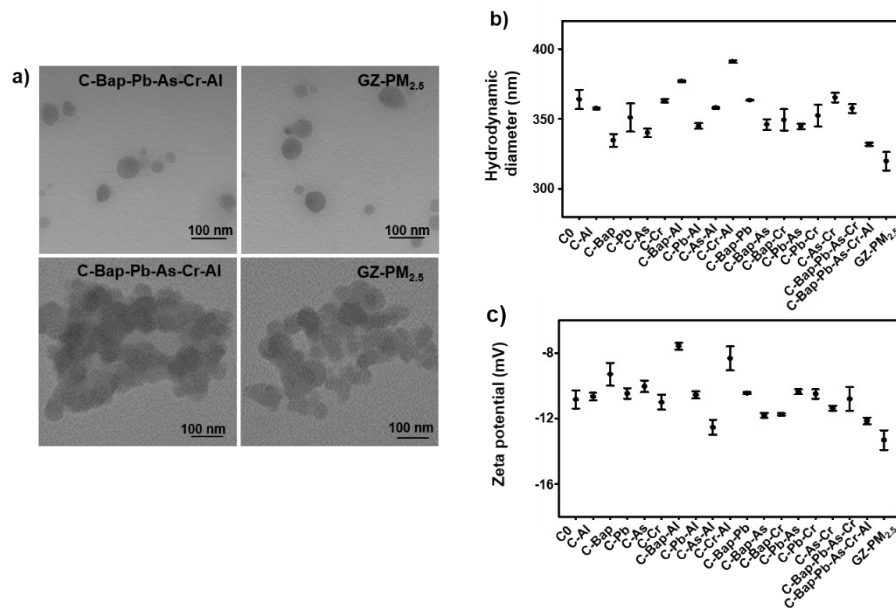


Figure S1. Physicochemical properties of PM_{2.5} particles. TEM images of PM_{2.5} and model particle **C-BaP-Pb-Cr-Al** before (lower) and after (upper) sonication (a), hydrodynamic diameters (b) and zeta potentials (c) of PM_{2.5} and model PM_{2.5} particles.

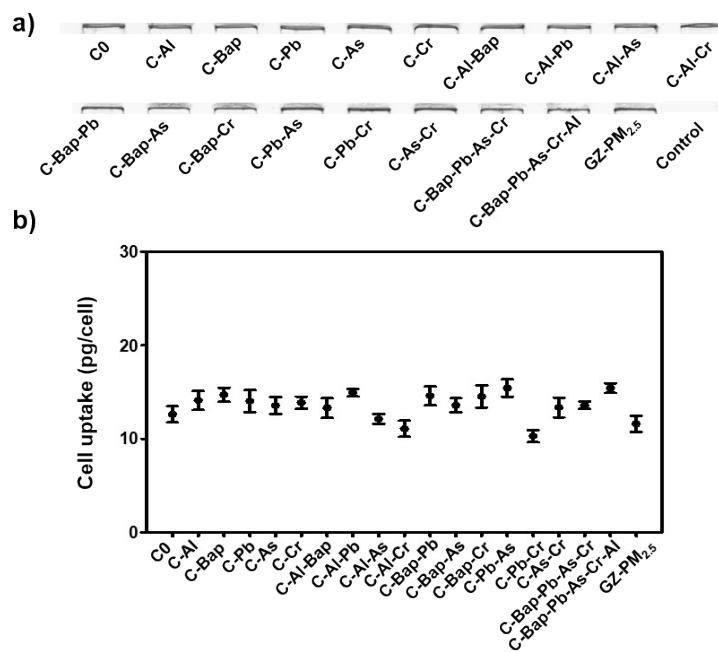


Figure S2. Cellular uptake of PM_{2.5} particles by SH-SY5Y cells. Quantitative analysis of the cellular uptake of model particles and GZ-PM_{2.5} (75 $\mu\text{g}/\text{mL}$) by SDS-PAGE (a, b).

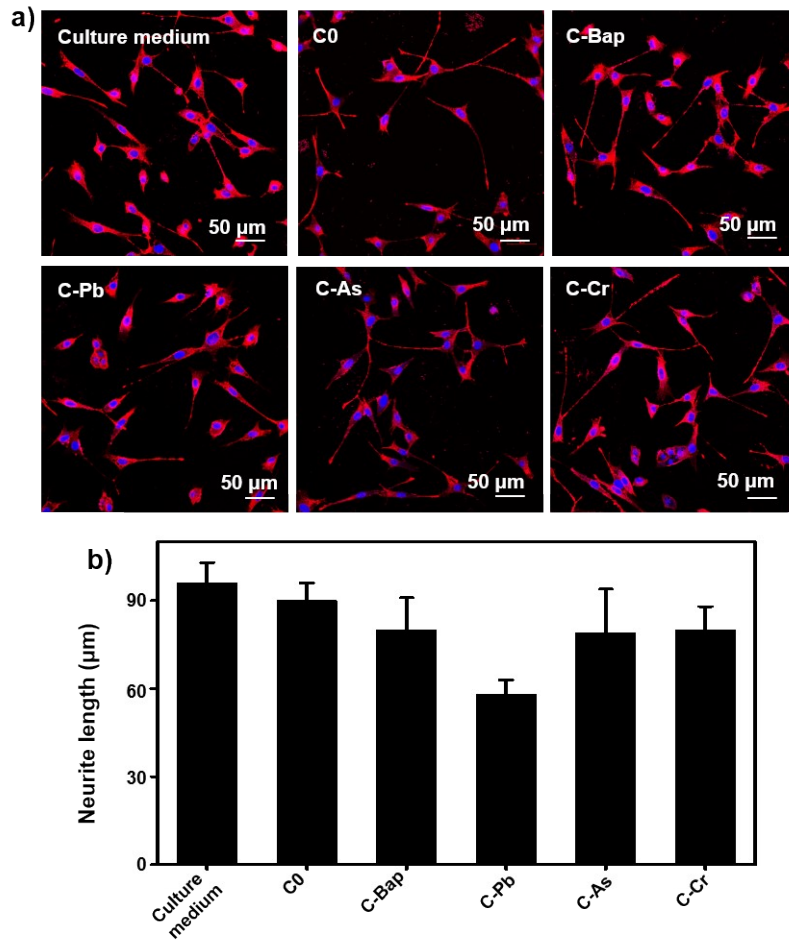


Figure S3. Effects of PM_{2.5} components on neurite outgrowth of HT22 cells. Images of cell morphology obtained by LSCM (a) and changes of neurite lengths with model particles treatment (100 μg/mL) (b).

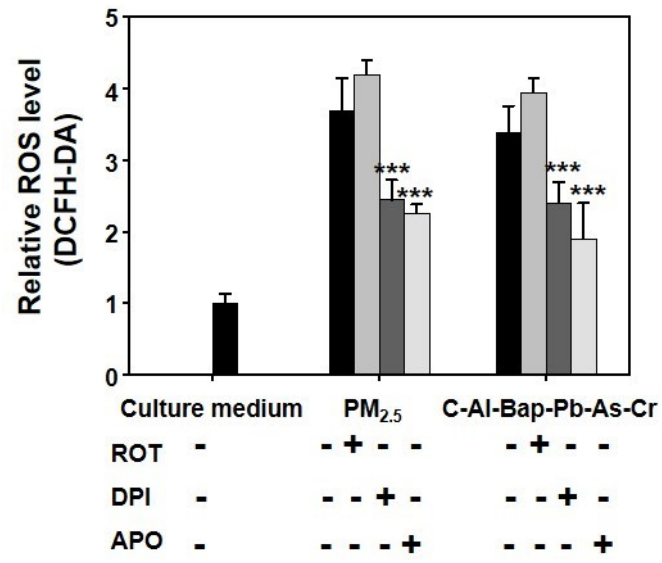


Figure S4. Effects of the ROS inhibitors ROT, DPI and APO on ROS induction in HT22 cells.