

Designing nanoparticle carriers for enhanced drug efficacy in photodynamic therapy

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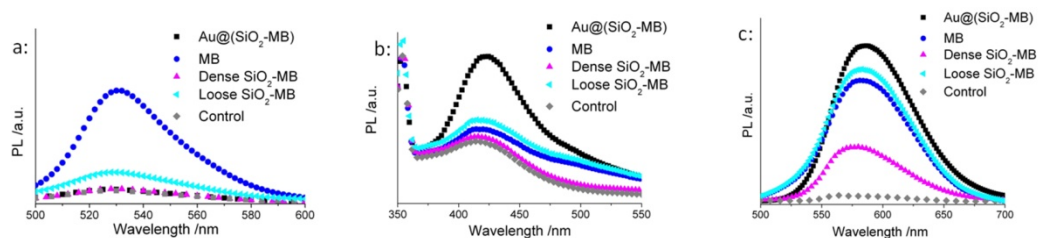


Fig. S1 Fluorescence spectra of free MB, dense SiO₂-MB, loose SiO₂-MB and Au@(SiO₂-MB) NPs after 20 minutes irradiation with 590 nm LED (a) in 5 × 10⁻⁵ M aqueous singlet oxygen sensor green (SOSG) solution with Ex: 488 nm; (b) in 5 × 10⁻⁴ M NaOH (2 × 10⁻³ M) solution of terephthalic acid (TA) with Ex: 315 nm; and (c) in 5 × 10⁻⁵ M aqueous dihydroethidium (DHE) with Ex: 470 nm. In all experiments de-ionized water containing the detection dye was chosen as the control. The concentration of MB was fixed as 5 μM in all samples.

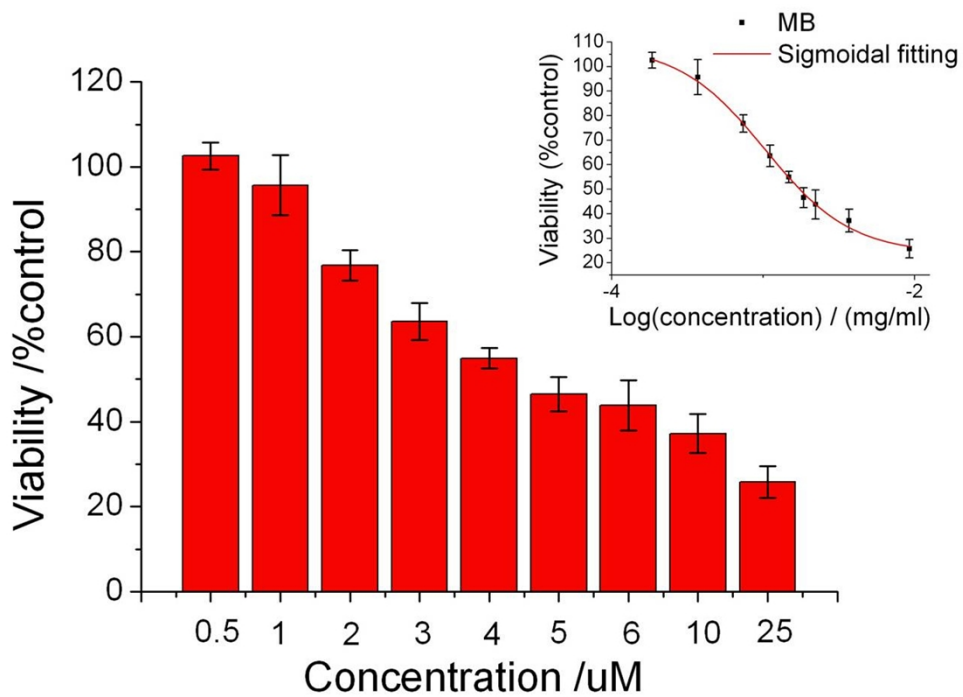


Fig. S2 Viability (by MTT assay) of the HepG2 cells incubated with MB for 24 hours, insert is the sigmoidal fitting of the obtained viability curve. Data are presented with mean \pm standard deviation (SD) from three independent experiments. Significance indicated by $p < 0.05$, analyzed by student's t test.

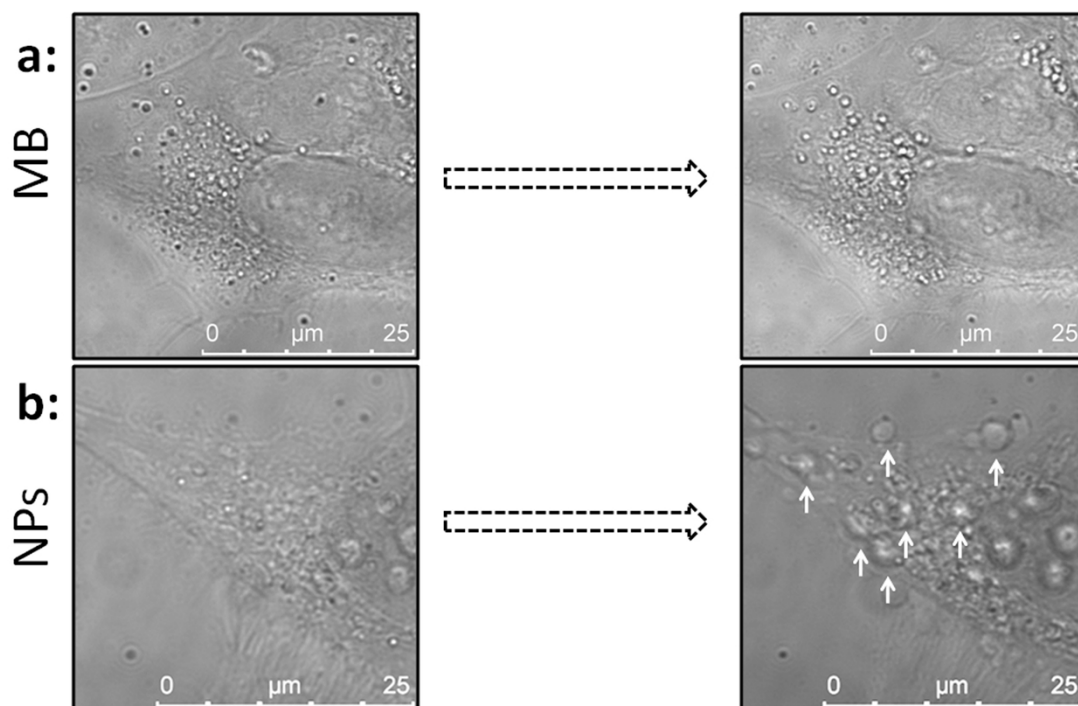


Fig. S3 Morphology change of cells incubated with (a) free MB or (b) Au@(SiO_2 -MB) NPs for 24 hours followed by only a few minutes' irradiation with 633 nm laser under confocal microscope.

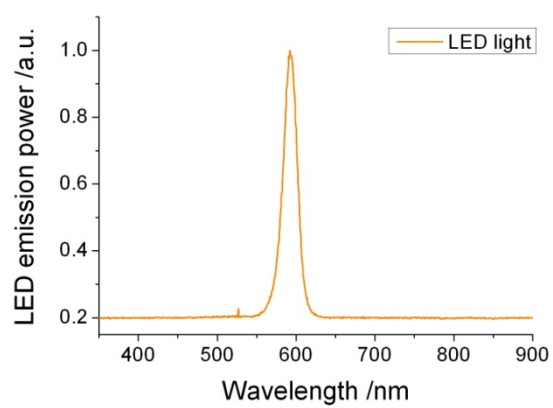


Fig. S4 LED emission profile of the 590 nm LED used in the present study.

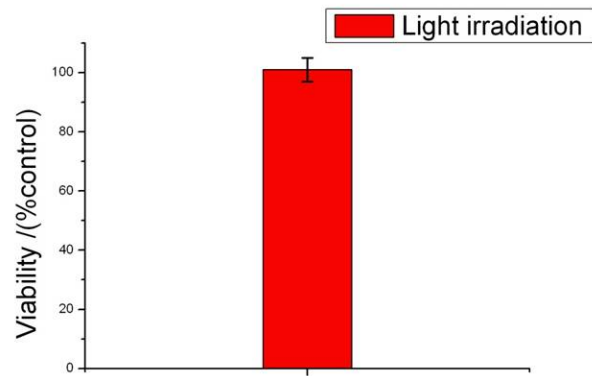


Fig. S5 Viability of HepG2 cells after irradiation with 590 nm LED light for 20 minutes. All data were shown as mean \pm SD (from three independent experiments) and significantly different ($p < 0.05$) from control (analyzed by student's t test).