

Supplementary data for

Precision Control of Large-Scale Green Synthesis of Biodegradable Gold Nanodandelions as Potential Radiotheranostics

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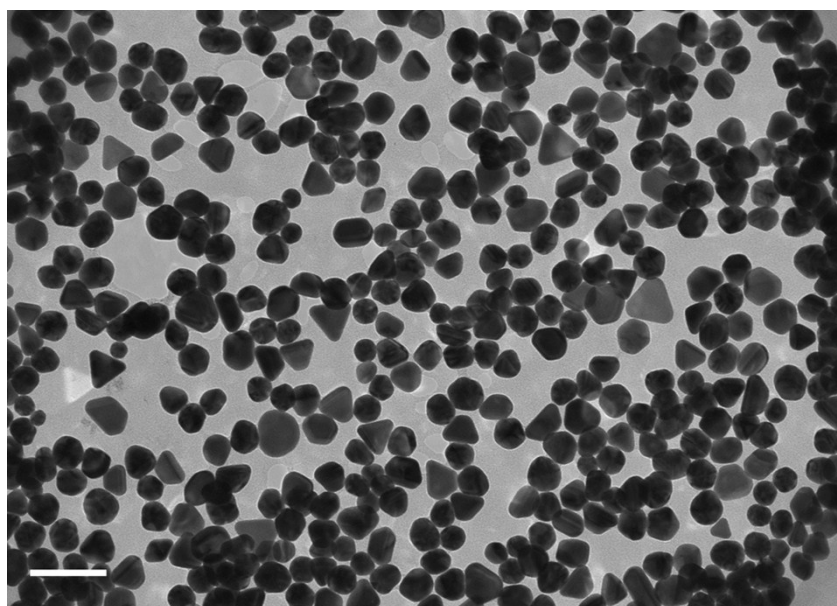


Figure S1. TEM images of citrate-capped AuNP seeds prepared by reduction with sodium citrate.

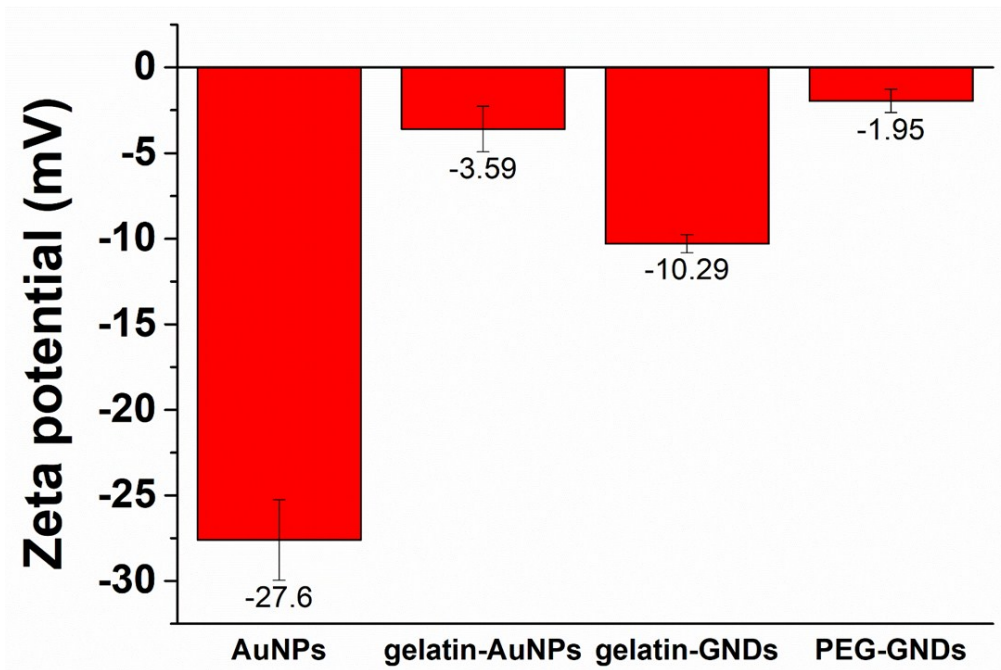


Figure S2. Zeta potential of AuNP seed, gelatin-AuNPs, gelatin-GNDs, and PEG-GNDs.

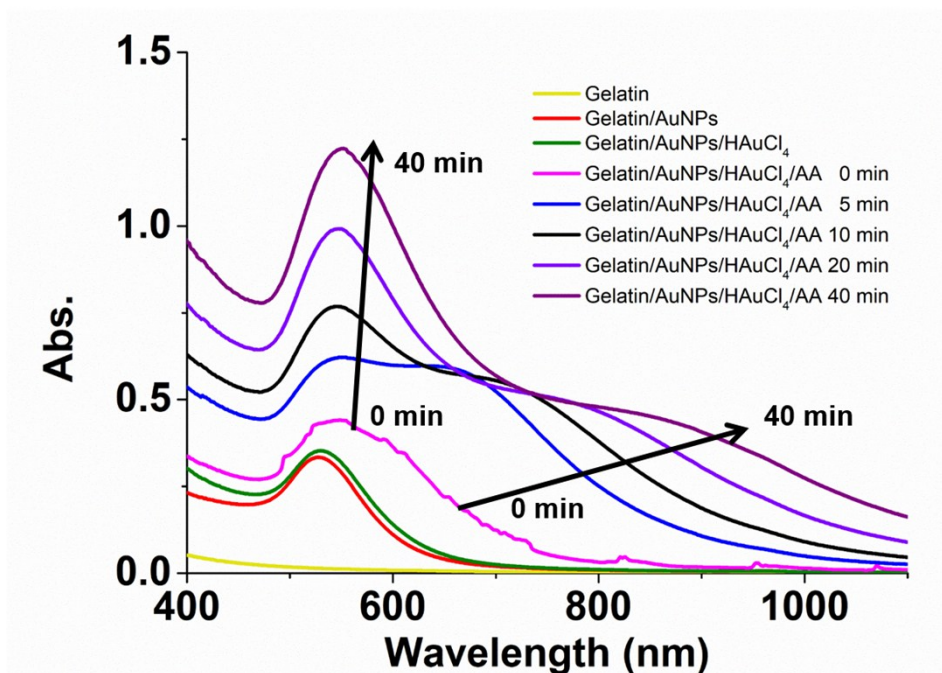


Figure S3. Time dependent absorption spectral changes show the evolution of the as-prepared GNDs with a growth duration of 0 to 40 min.

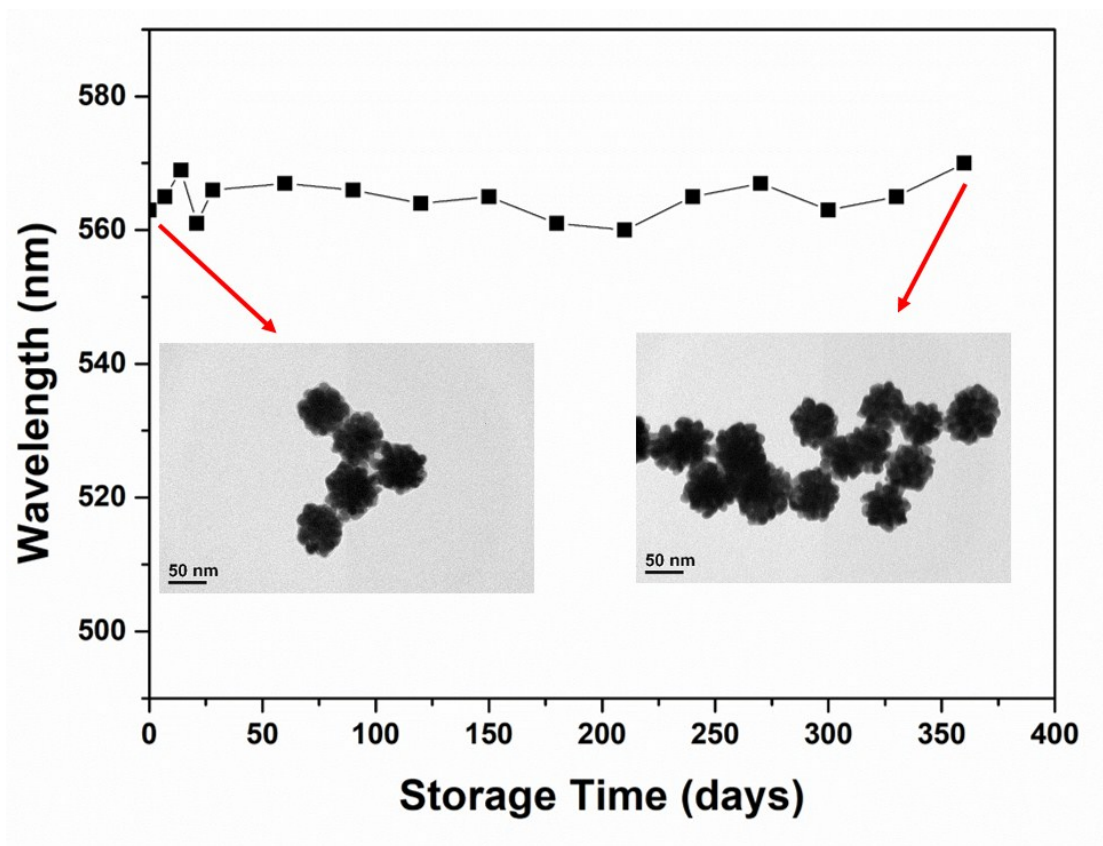


Figure S4. Stability of the GNDs under different storage conditions. The GNDs particles were stored in PBS solution at 4°C. The 360-day storage of GNDs in PBS imposed insignificant shift in the plasmon band, indicating their excellent structural and colloidal stability. TEM images indicate the general shape of GNDs one day and 360 days after synthesis.

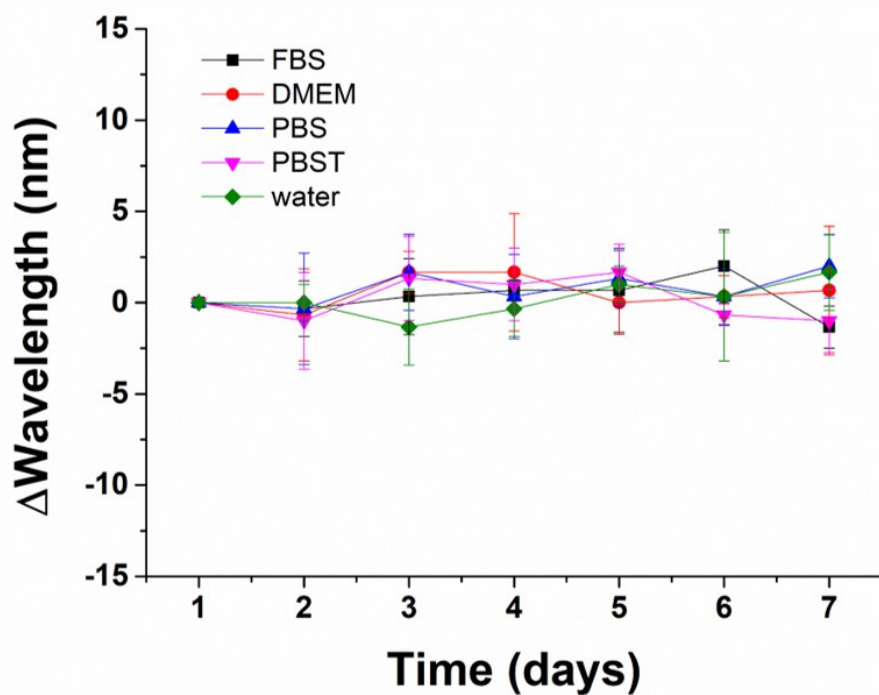
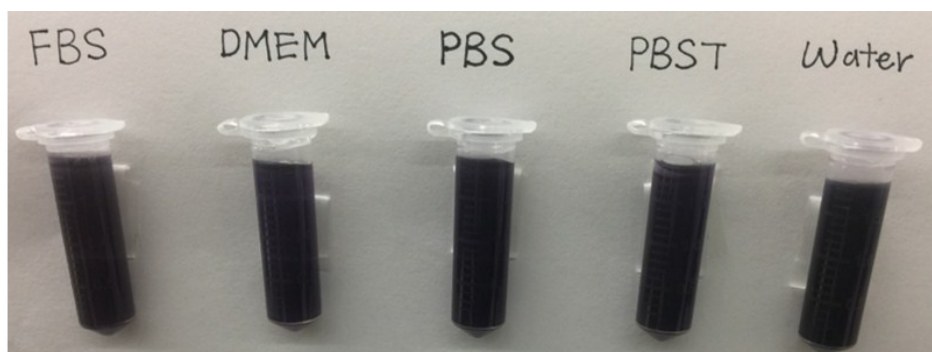


Figure S5. Spectra of PEG-GNDs mixed with various of solution. Photography of

PEG-GNDs in a variety of solution (top) and wavelength shift over a period of 7 days.

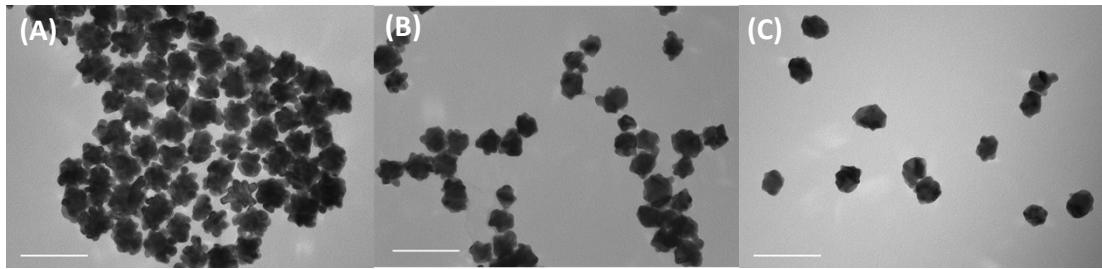


Figure S6. TEM imaging of GNDs produced at different seed concentrations. The amount of gold seeds was altered from (A) 100 μL , (B) 200 μL , (C) 400 μM in Au atom. Scale bar is 100 nm.

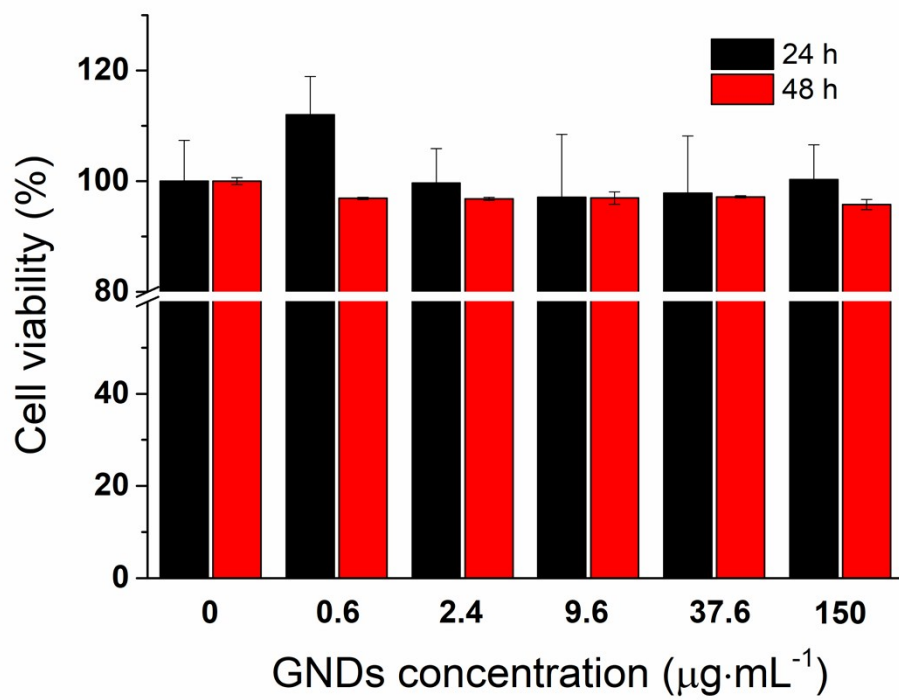


Figure S7. Cell viability of PEG-GNDs with different coculture time. Black: 24 h.

Red: 48 h.

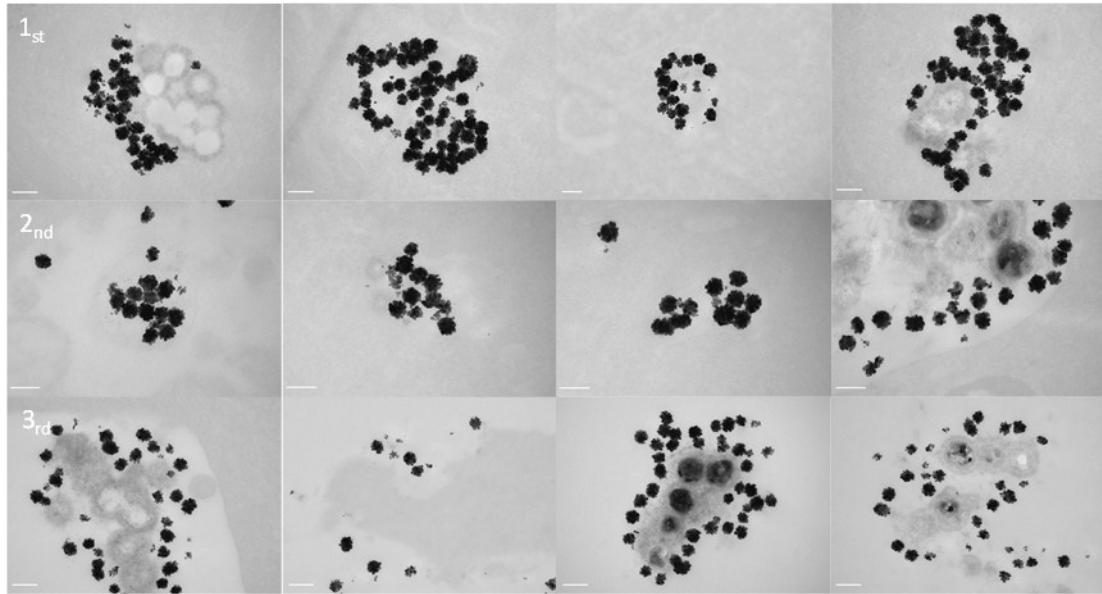


Figure S8. TEM images of disintegrated GNDs in MES-SA cells after incubation at different time. Scale bars are 100 nm.

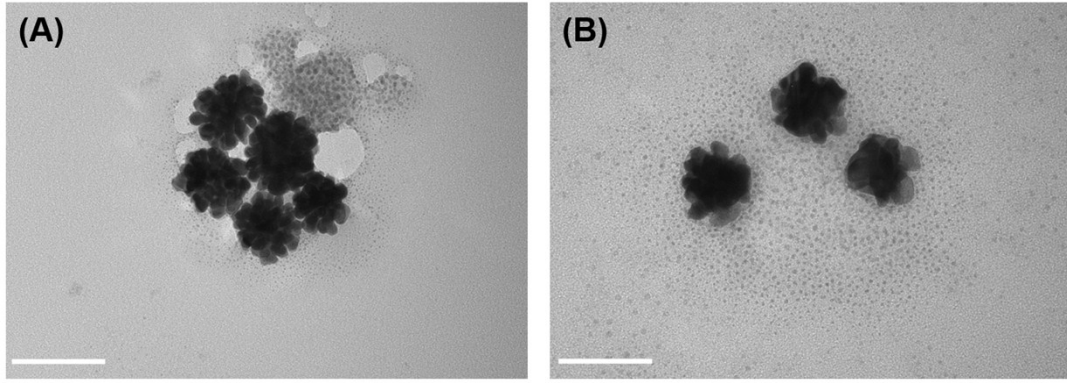


Figure S9. TEM image of PEG-GNDs after (A) 24 h and (B) 1 week of incubation with 2 mM of glutathione. Scale bars are 100 nm.

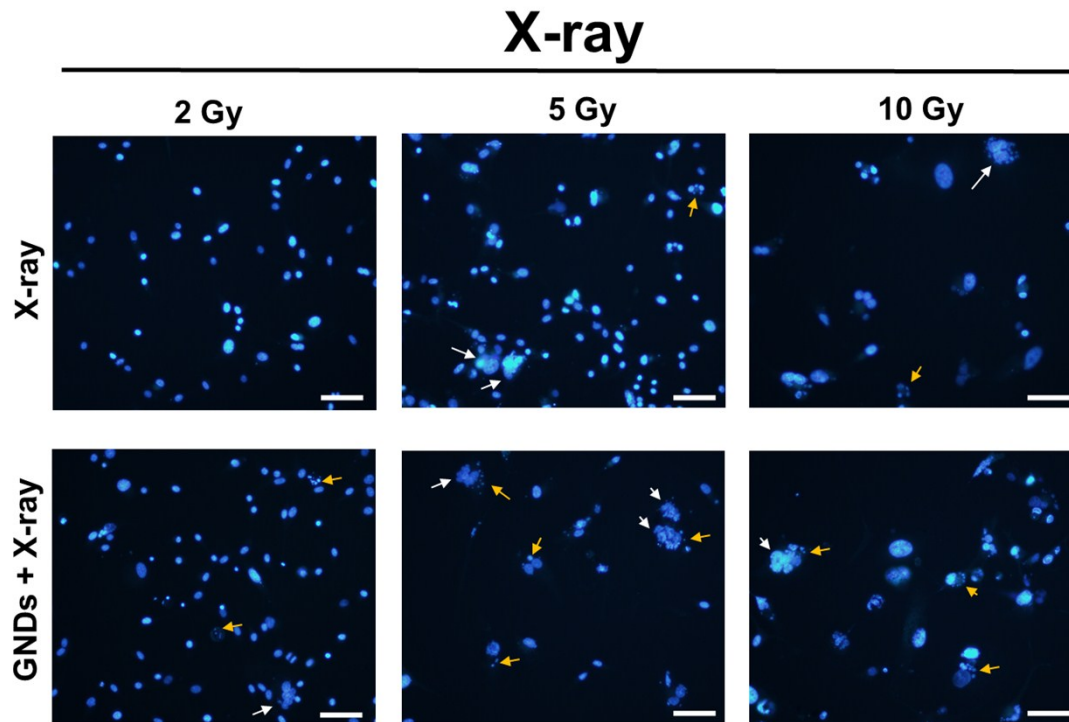


Figure S10. Abnormal nuclei in irradiated U87-MG cell. DAPI staining of irradiated cells displaying mitotic aberrations. The accumulative GNDs enhanced the ROS generation and increased frequencies of micronuclei (yellow), multi-lobulated nuclei (white). Scale bars are 50 μm .