Supporting information

Magnetic and near-infrared-II Fluorescence Au-Gd Nanoclusters for Imaging-Guided Sensitization of Tumor Radiotherapy

*Hui Zhao[a, 1], Hao Wang[b,1], Hairu Li[c], Tiecheng Zhang[a], Jing Zhang[a], Wenhui Guo[a], Kuang Fu[a, *], Guoqing Du[c, d, *]*

[a] Department of MRI Diagnosis, The Second Affiliated Hospital of Harbin Medical University, Harbin 150086, Heilongjiang Province, P. R. China

[b] Department of Respiratory and Critical Care Medicine, The Second Affiliated Hospital of Harbin Medical University, Harbin 150086, Heilongjiang Province, P. R. China

[c] Department of Ultrasound, The Second Affiliated Hospital of Harbin Medical University, Harbin 150086, Heilongjiang Province, P. R. China

[d] Department of Ultrasound, Guangdong Provincial People's Hospital, Guangdong Academy of Medical Sciences, Guangzhou 510080, Guangdong Province, P. R. China

[1] Hui Zhao and Hao Wang contributed equally to this work.

* Corresponding authors. E-mail: duguoqing@hrbmu.edu.cn (Guoqing Du), 3996@ hrbmu.edu.cn (Kuang Fu).

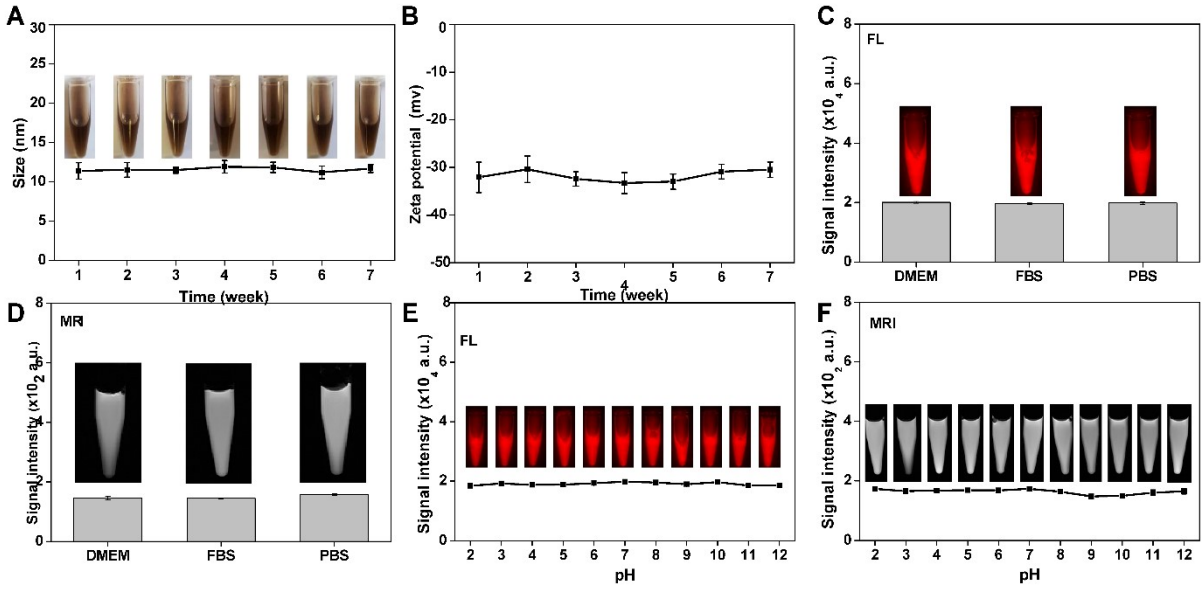

Figure S1. Characterization of Au-Gd NCs. A) The hydrodynamic diameter variation of Au-Gd NCs in 7 weeks. The insets: digital photograph of Au-Gd NCs in 1st to 7th week after synthesis. **B)** The zeta potential variation of Au-Gd NCs in 7 weeks. **C)** The NIR-II FL intensity of Au-Gd NCs with the same concentration in DMEM, FBS and PBS (pH 7.4, 0.1 M) solution. The insets: NIRF-II images of Au-Gd NCs in different solutions. **D)** The MRI signal intensity of Au-Gd NCs with the same concentration in DMEM, FBS and PBS (pH 7.4, 0.1 M) solution. The insets: MRI images of Au-Gd NCs in different solutions. **E)** The NIR-II FL intensity of Au-Gd NCs with the same concentration in solution with different values of pH (2-12). The insets: NIRF-II images of Au-Gd NCs with different pH values. **F)** The MRI signal intensity of Au-Gd NCs with the same concentration in solution with different values of pH (2-12). The insets: MRI images of Au-Gd NCs with different pH values

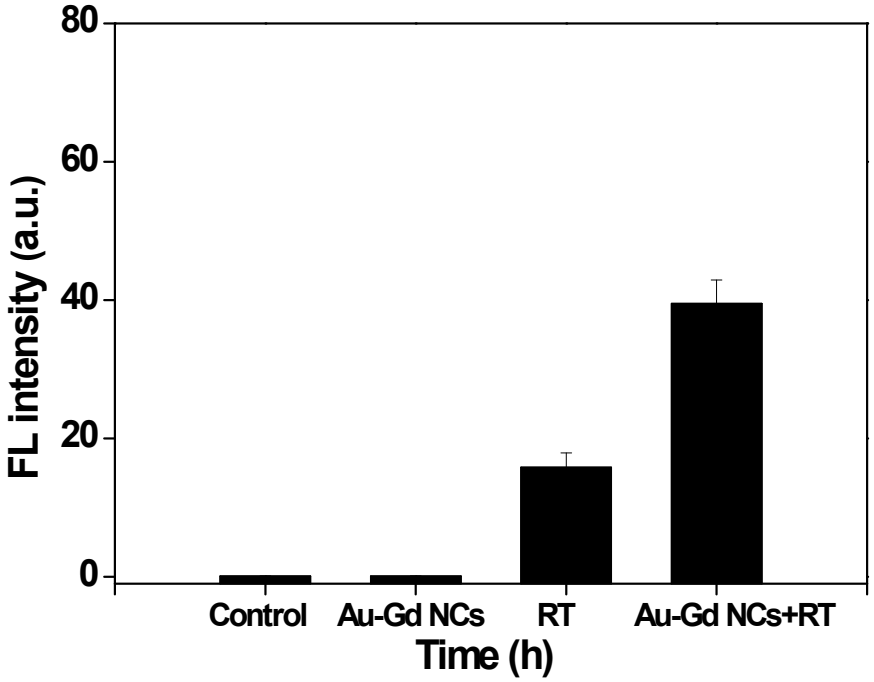

Figure S2 Semiquantification of γ-H_2AX density using the Image J software.

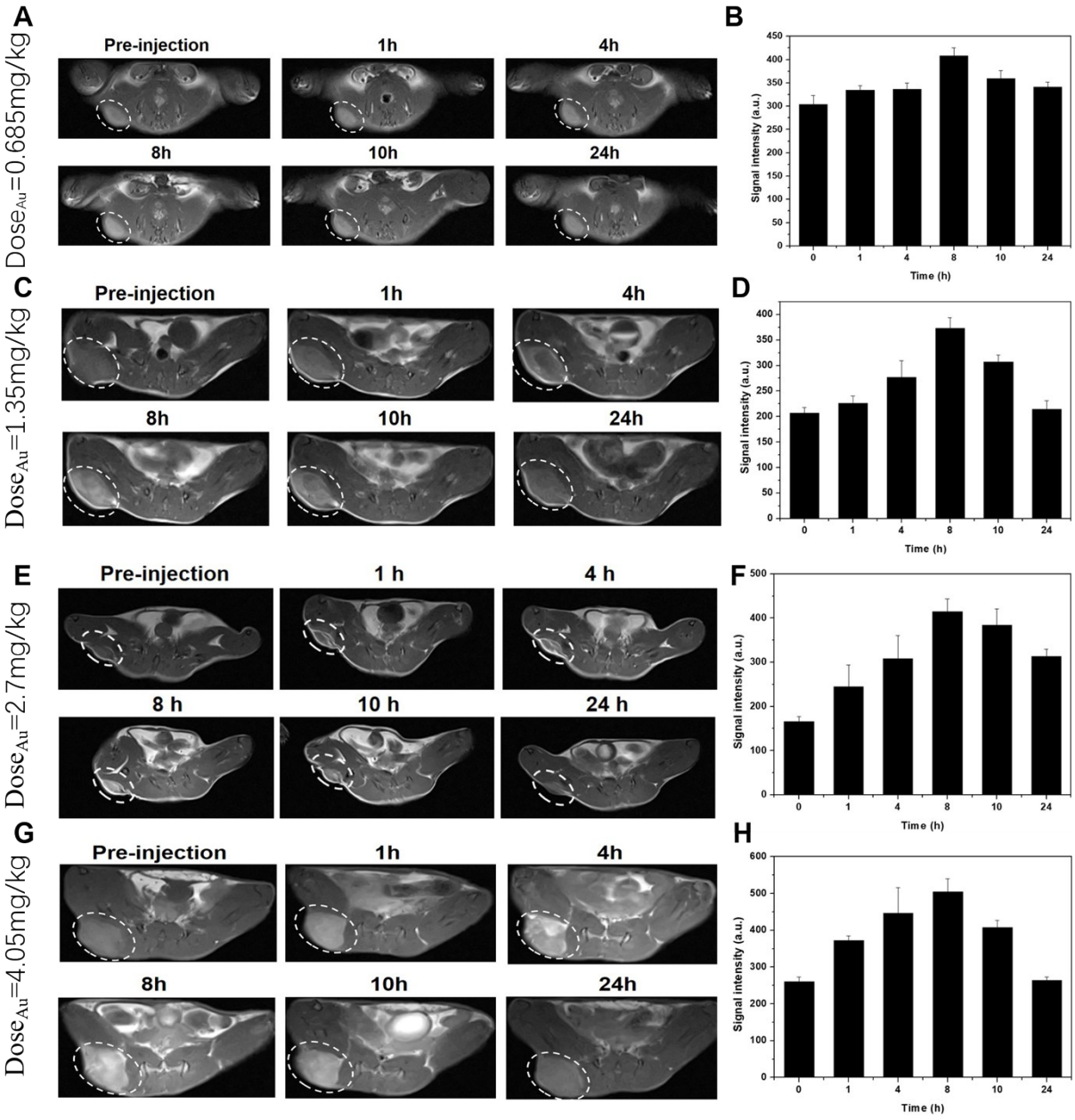

Figure S3 In vivo MR imaging of tumors. A,C,E,G) T1-weight MRI images of Au-Gd NCs in C6 subcutaneous tumor-bearing mice at different time intervals. B,D,F,H) Quantitative analysis of tumor signal intensity at different time points after IV injection of Au-Gd NCs.

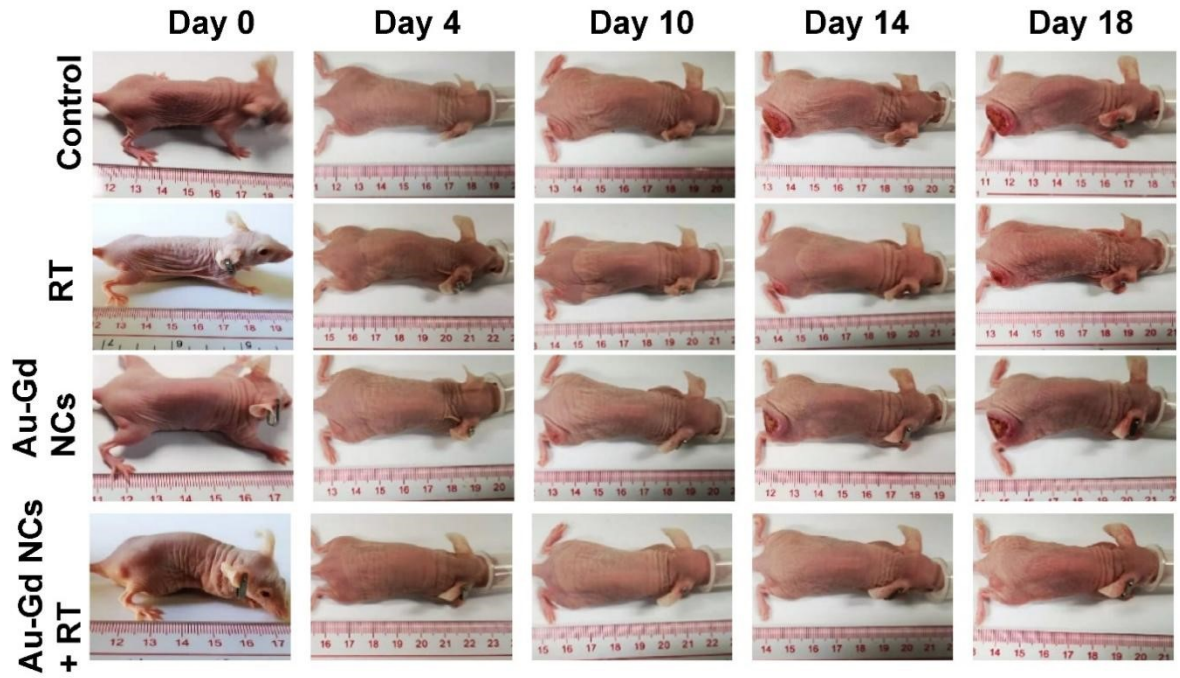

Figure S4. Photographs of mice with different treated groups.

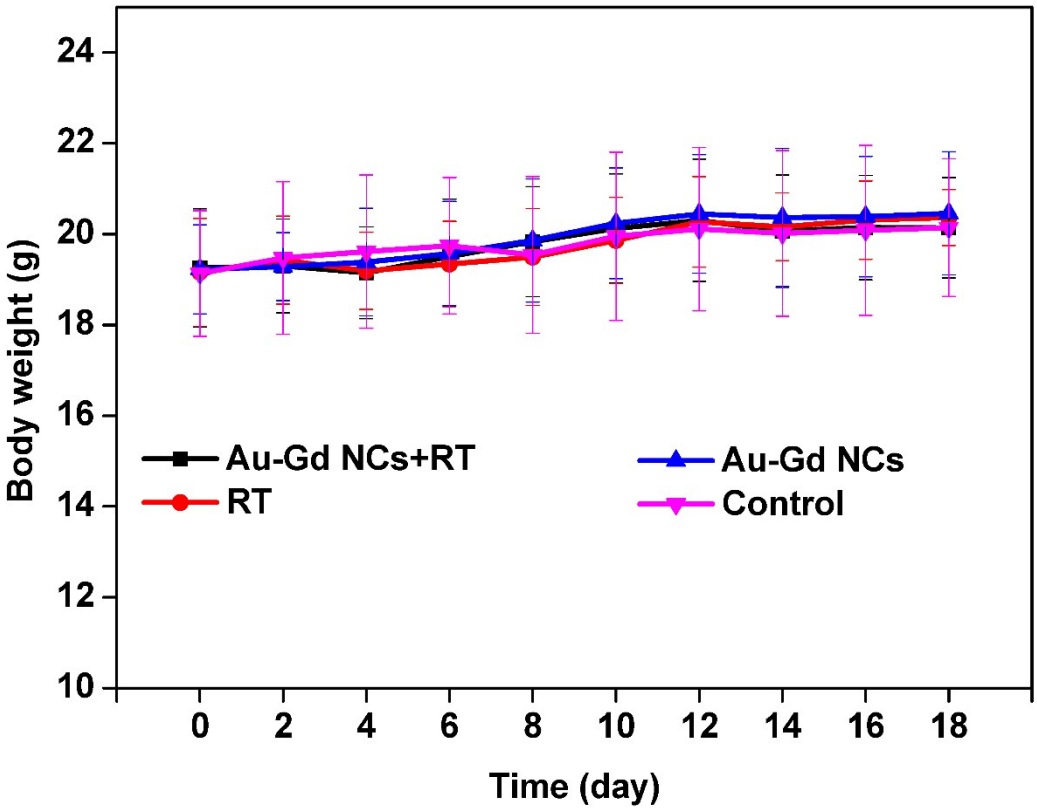

Figure S5. Body weights of tumor-bearing nude mice with different treatments during the 18 day evaluation period.