Supporting Information for

Near-Infrared Light-Responsive Nitric Oxide Delivery Platform for Enhanced Radioimmunotherapy

Xuanfang Zhou[1], Zhouqi Meng[1,*], Jialin She[1], Yaojia Zhang[1], Xuan Yi[2], Hailin Zhou[2], Jing Zhong[2], Ziliang Dong[1], Xiao Han[1], Muchao Chen[1], Qin Fan[1], Kai Yang[2], Chao Wang[1,*]

[1]Institute of Functional Nano & Soft Materials (FUNSOM), Jiangsu Key Laboratory for Carbon-based Functional Materials and Devices, Soochow University, Suzhou, Jiangsu 215123, People's Republic of China

[2]State Key Laboratory of Radiation Medicine and Protection, School of Radiation Medicine and Protection & School for Radiological and Interdisciplinary Sciences (RAD-X), Collaborative Innovation Center of Radiation Medicine of Jiangsu Higher Education Institutions, Soochow University, Suzhou, Jiangsu 215123, People's Republic of China

*Corresponding authors. E-mail: cwang@suda.edu.cn (Chao Wang), mengzhouqi@gmail.com (Zhouqi Meng)

Supplementary Table and Figures

Table S1 Hemolysis ratio of the nanoparticle's solution compared with negative and positive control (3 samples in each group)

	Negative control	Positive control	Ag_2S@BSA-SNO (5 mg mL^{-1})	Ag_2S@BSA-SNO (10 mg mL^{-1})	Ag_2S@BSA-SNO (20 mg mL^{-1})
Absorbance intensity	0.061± 0.001	1,422± 0.016	0.065±0.002	0.069±0.007	0.081±0.006
Hemolysis	-	-	0.293%	0.612%	1.4%

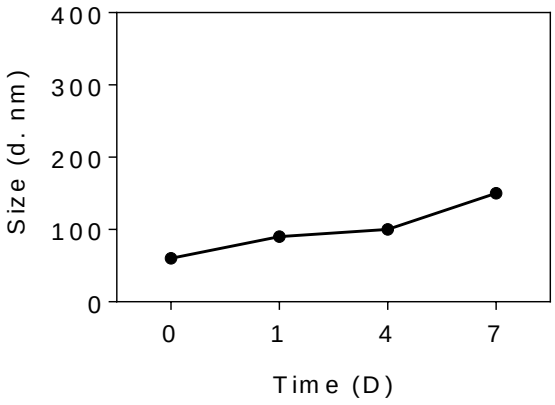

Fig. S1 Colloidal stability of Ag_2S@BSA-SNO nanoparticles in one week

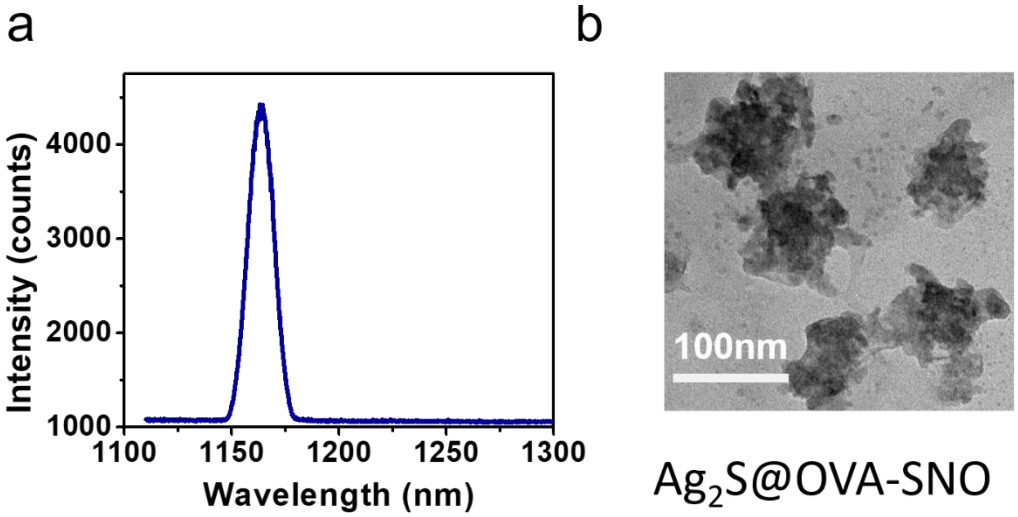

Fig. S2 Characteristics of our nanoparticles. (**a**) Fluorescence of Ag_2S@BSA-SNO solution. (**b**) TEM image of Ag_2S@OVA-SNO nanoparticles

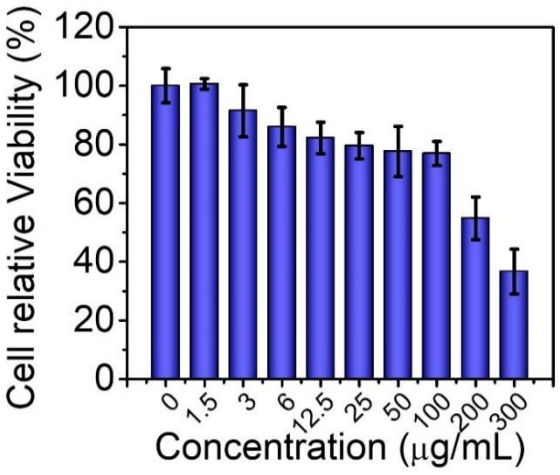

Fig. S3 In *vitro* therapeutic efficiency of our nanoparticles. MTT data of Ag_2S@BSA-SNO nanoparticles after being incubated with materials 24 h

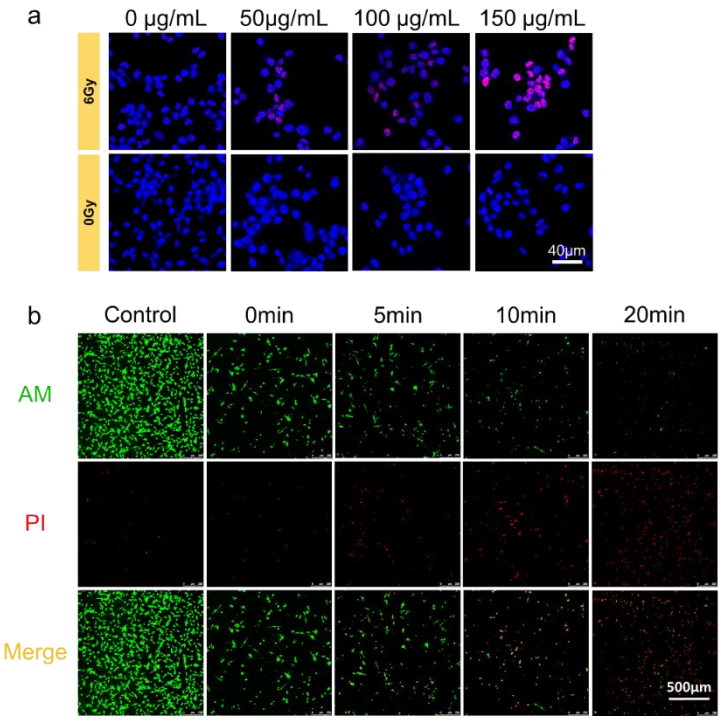

Fig. S4 In *vitro* therapeutic efficiency of our nanoparticles. (**a**) DNA damage staining of cells under different dose and material concentration treatments. Red: γ-H2AX signal (DNA damage); Blue: DAPI (nuclear staining). (**b**) Confocal image of AM/PI double stained experiments. Green: AM staining (live cells); red: PI staining (dead cells)

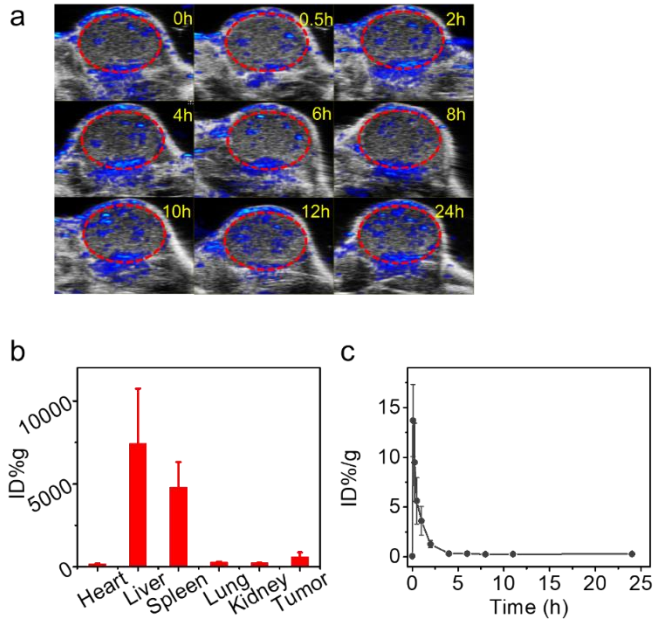

Fig. S5 (**a**) PA image of PBS group. (**b**) Bio-distribution of Ag_2S@BSA-SNO. (**c**) Blood circulation of Ag_2S@BSA-SNO nanoparticles after intravenous injection. The concentrations are determined by element Ag

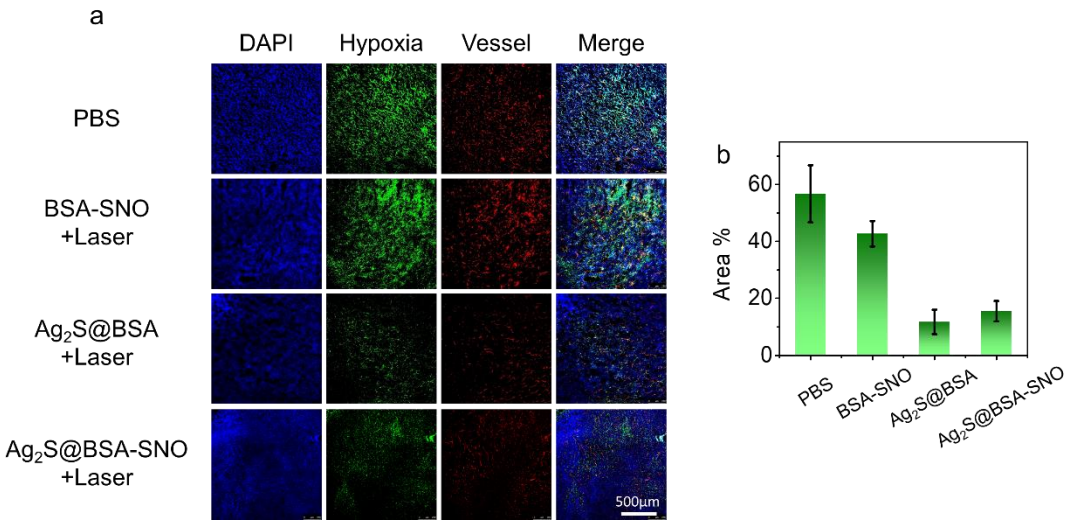

Fig. S6 Hypoxia staining of tumor tissue after various treatments. (**a**) Confocal images of tumor sections Green: hypoxia probe; red: anti-CD31 antibody (blood vessels); blue: DAPI (nuclear staining). (**b**) Statistic data of hypoxia area in the confocal image

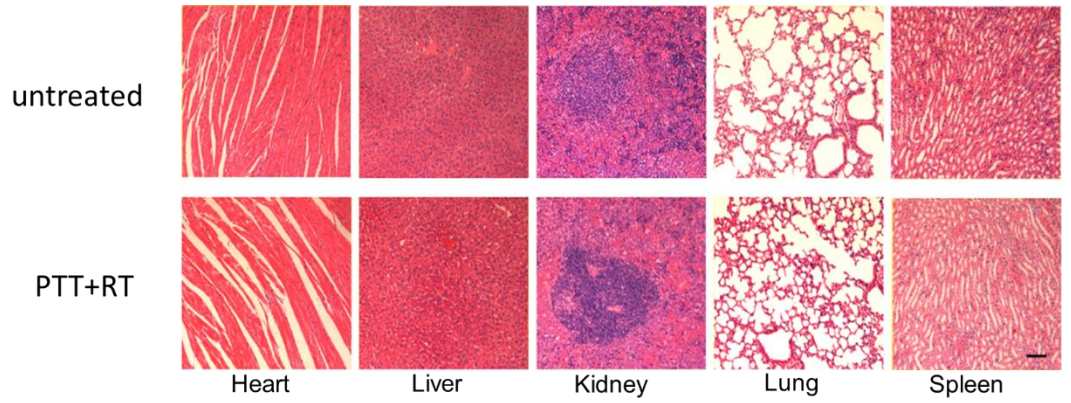

Fig. S7 H&E staining of various tissue sections from different mice