

Supplementary Materials

Brachytherapy Approach Using ^{177}Lu Conjugated Gold Nanostars and Evaluation of Biodistribution, Tumor Retention, Dosimetry and Therapeutic Efficacy in Head and Neck Tumor Model

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Table S1. Biodistribution of intravenously injection of ^{177}Lu -DTPA-AuNS in HNSCC orthotopic tumor model^a.

Organs ^b	24 h	48 h
Blood	0.13±0.00	0.04±0.00
Heart	0.25±0.07	0.16±0.04
Lung	0.52±0.27	0.93±0.97
Liver	50.66±13.84	45.58±2.47
Stomach	0.64±0.25	0.33±0.13
Small int.	2.03±0.89	1.15±0.46
Large int.	0.49±0.15	0.30±0.06
Pancreas	0.24±0.10	0.43±0.14
Spleen	14.89±1.60	24.32±3.53
Kidney	6.22±1.21	4.42±0.20
Muscle	0.09±0.04	0.07±0.05
Tumor	1.17±0.13	0.59±0.36
Bone	0.52±0.09	0.66±0.14
Bone Marrow	2.20±0.23	3.38±0.68
Brain	0.01±0.00	0.01±0.01
T/M	14.30±4.86	7.90±0.06
T/B	8.84±1.22	14.52±9.77

a. Unit: percent of injection dose/gram of organ or tissue (%ID/g).

b. T/M: tumor-to-muscle; T/B tumor-to-blood ratio.

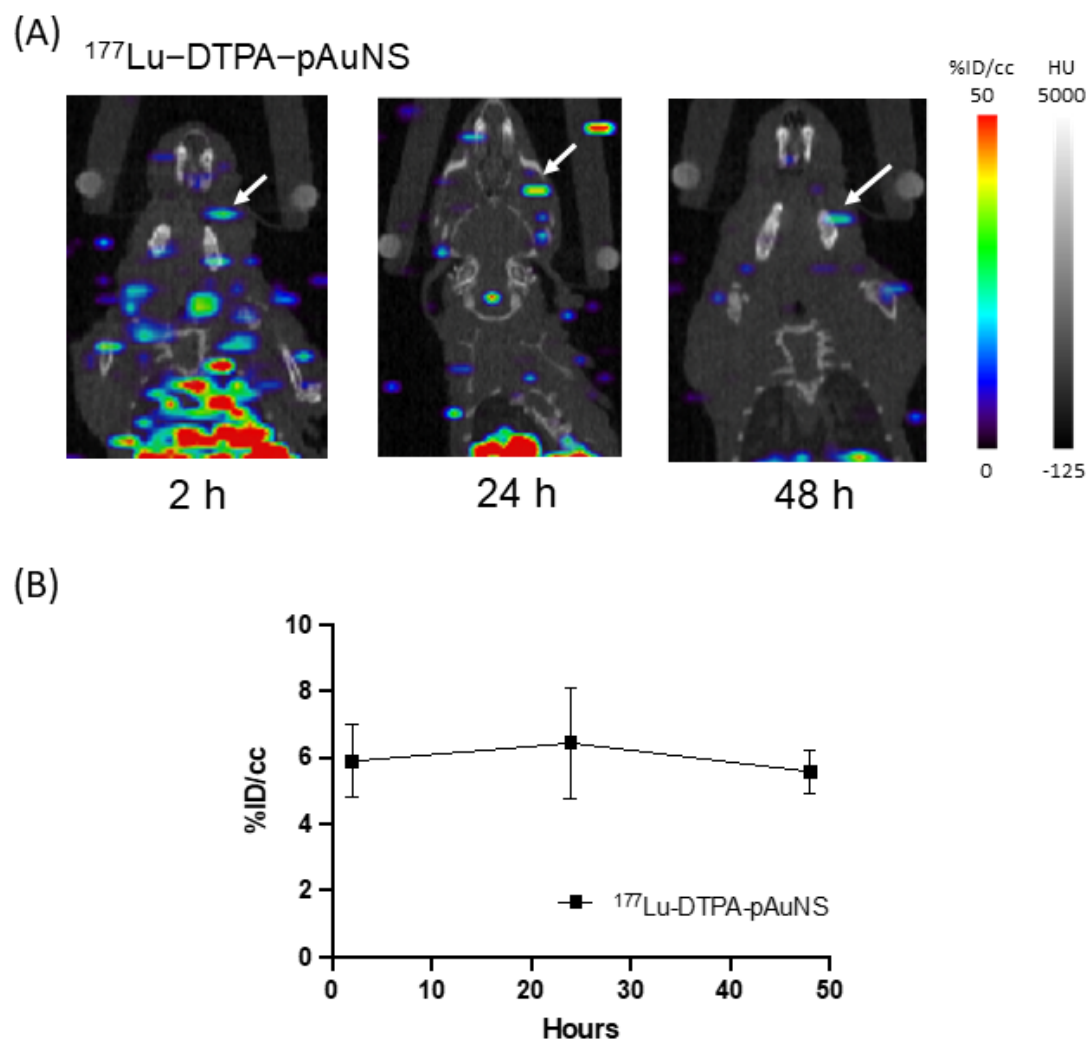


Figure S1. Intravenously injection of ^{177}Lu -DTPA-pAuNS in HNSCC orthotopic tumor model. (A) $\mu\text{SPECT/CT}$ imaging of ^{177}Lu -DTPA-pAuNS. (B) The activity of the tumor area at different time points.

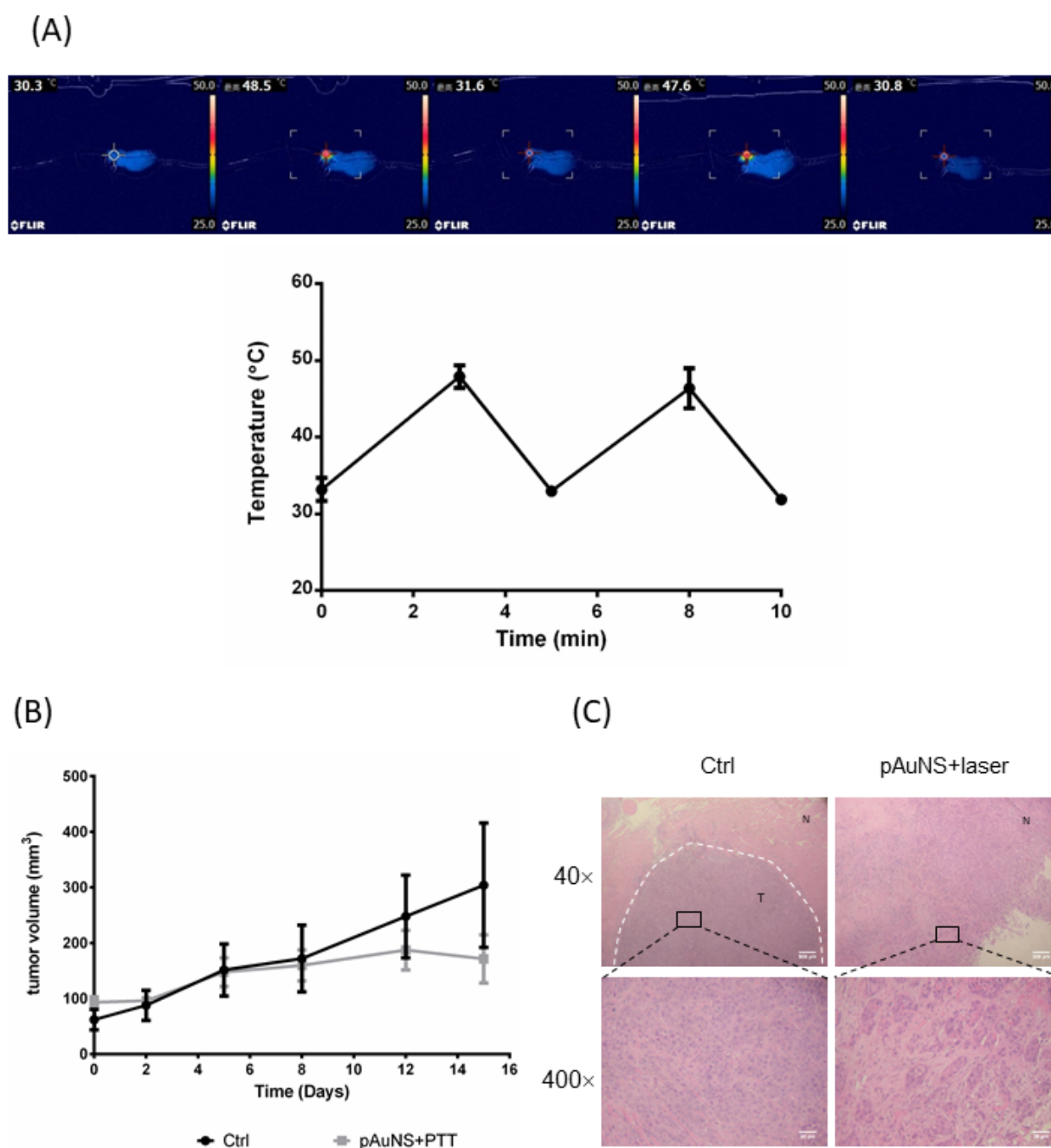


Figure S2. Intratumorally delivered pAuNS-mediated photothermal therapy. (A) Thermal imaging of pAuNS-mediated photothermal therapy (PTT) showing the surface temperature of the tumor during laser irradiation. (B) The tumor volume curves of the mice received pAuNS-mediated PTT and controls. (C) H&E staining of residual masses receiving laser alone (left column) and pAuNS-mediated PTT (right column). The nuclei and the cytoplasm were stained with hematoxylin (blue) and eosin (red). T: tumor; N: non-tumoral surrounding tissues.