Supplemental Information

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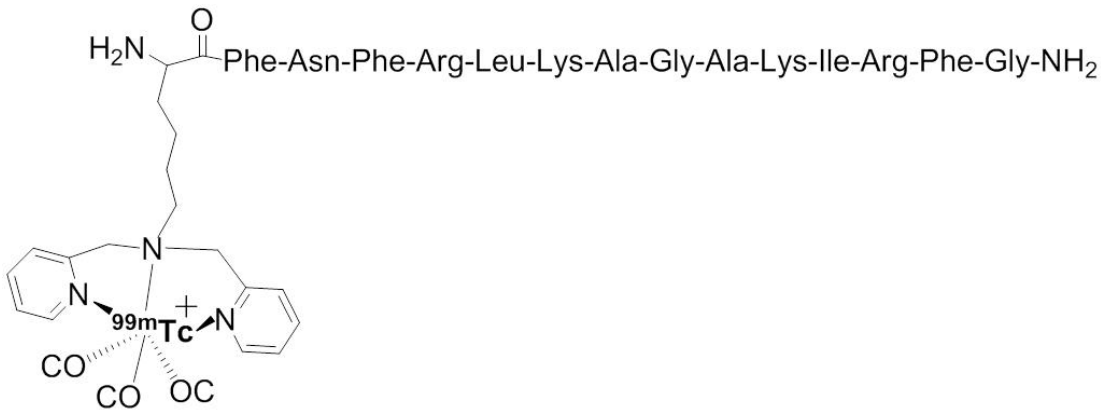
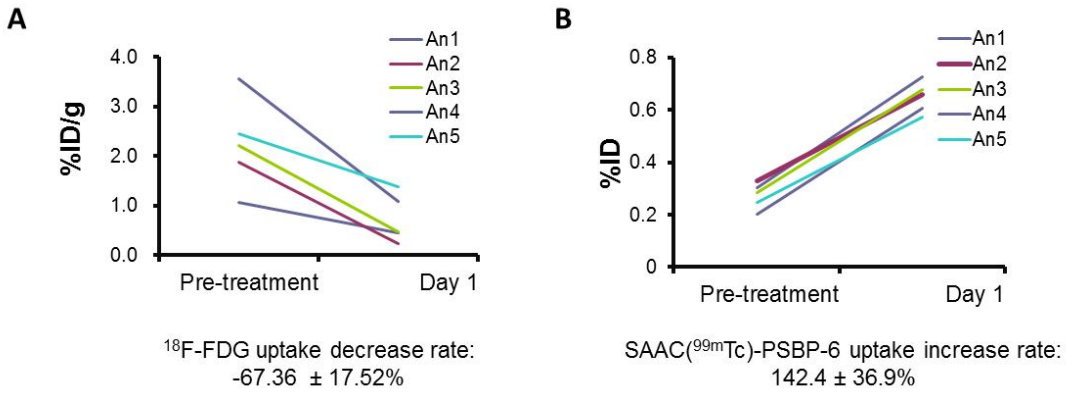
Method: Biodistribution Study of SAAC(^{99m}Tc)-PSBP-6 4 hours postinjection

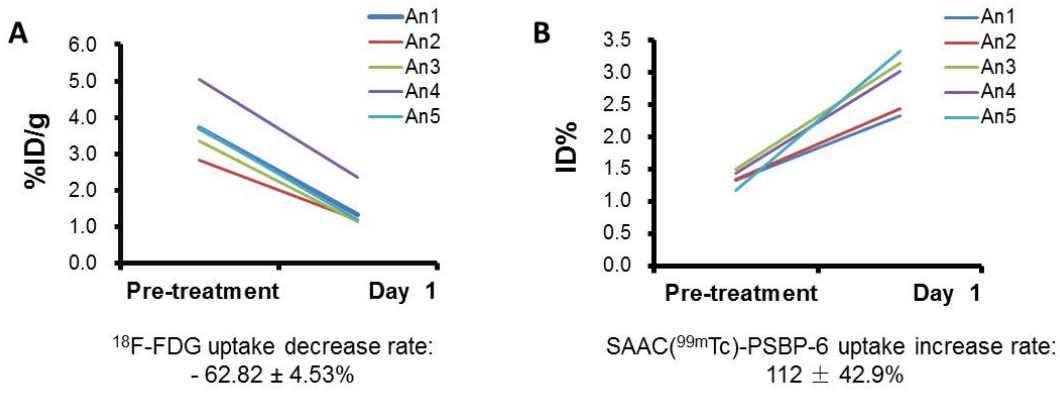
B16/F10 melanoma and 38C13 lymphoma tumor models were used in this study. When the tumors had grown to 6–8 mm in diameter, the mice were randomly divided into treated group (TG) and non-treated group (N-TG), with each group consisting of 4-5 mice. In the TG groups, mice bearing murine B16/F10 melanoma received a single dose of intravenous polymeric paclitaxel (equivalent dose = 80 mg/kg); and mice bearing 38C13 xenografts received intraperitoneal injection of cyclophosphamide (100 mg/kg). Twenty-four hours after treatment, all mice in the TG received intravenous injection of SAAC(^{99m}Tc)-PSBP-6 (20 μCi/mouse). Mice in the N-TG also received intravenous injection of SAAC(^{99m}Tc)-PSBP-6 (20 μCi/mouse). Mice were killed 4 hours after radiotracer injection. Blood, heart, liver, spleen, kidney, lung, stomach, intestine, muscle, bone, and tumor tissues were removed and weighed. Radioactivity was measured with a gamma counter. Uptake of SAAC(^{99m}Tc)-PSBP-6 in various tissues was calculated as the percentage of the injected dose per gram of tissue (% ID/g).



Supplemental Figure 1. Structure of SAAC(^{99m}Tc)-PSBP-6.



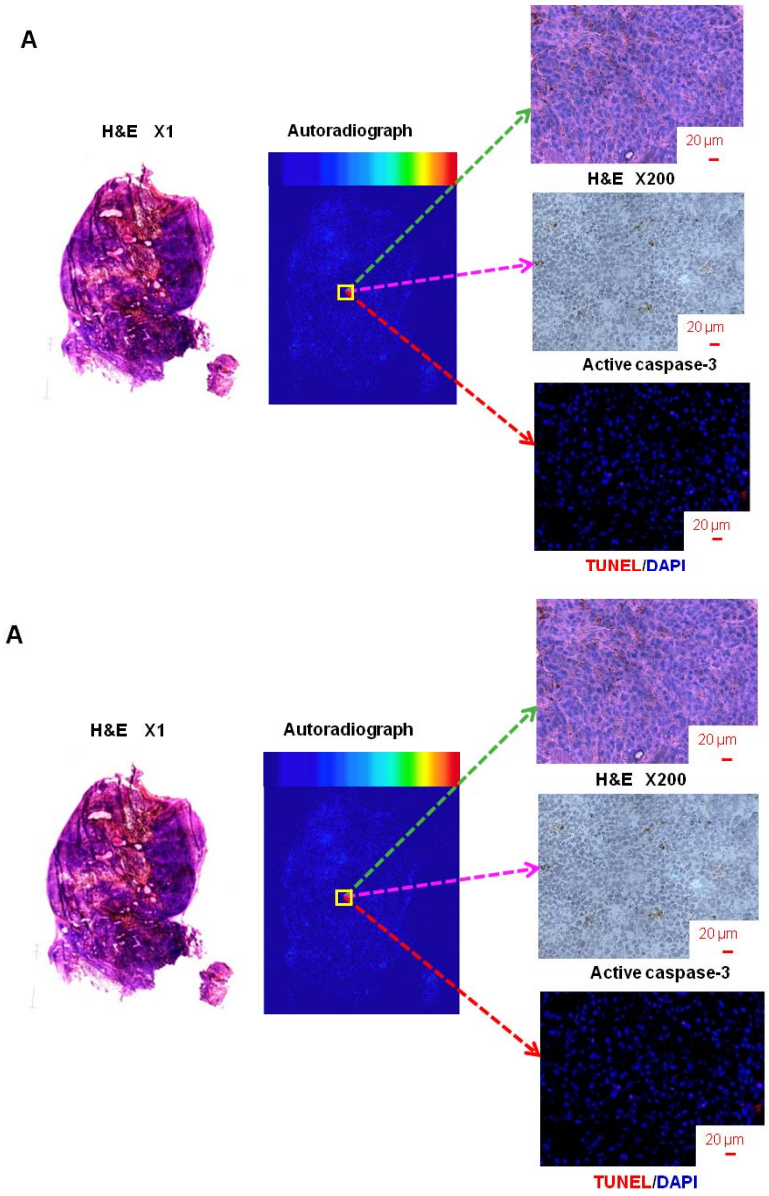
Supplemental Figure 2. Changes in tumor uptake values of radiotracers in 38C13 tumors after therapy. (A) Changes of ^{18}F-FDG uptake, expressed as percentages of injection dose per gram tumor (%ID/g). (B) Changes of SAAC(^{99m}Tc)-PSBP-6 uptake, expressed as percentages of injection dose (% ID). An1-An5, animals 1-5.



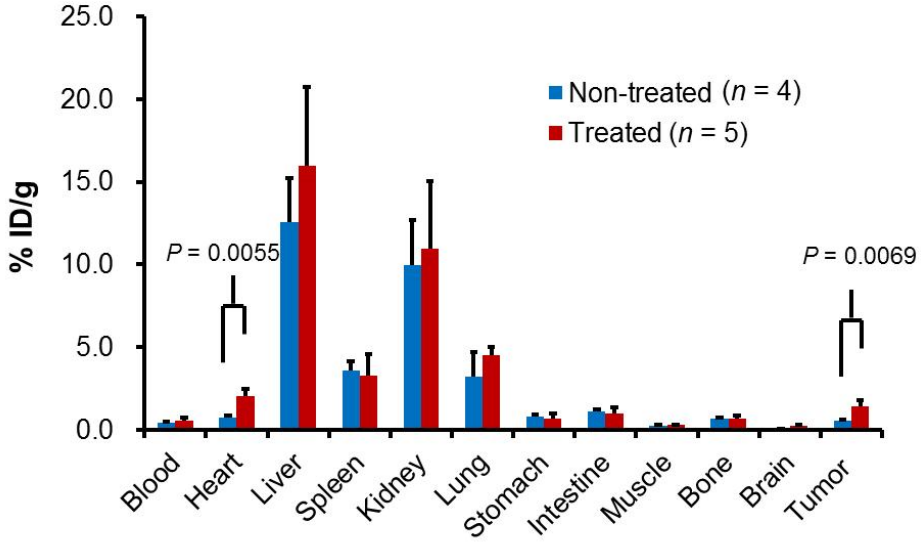
^{18}F-FDG uptake decrease rate:
- 62.82 ± 4.53%

SAAC(^{99m}Tc)-PSBP-6 uptake increase rate:
112 ± 42.9%

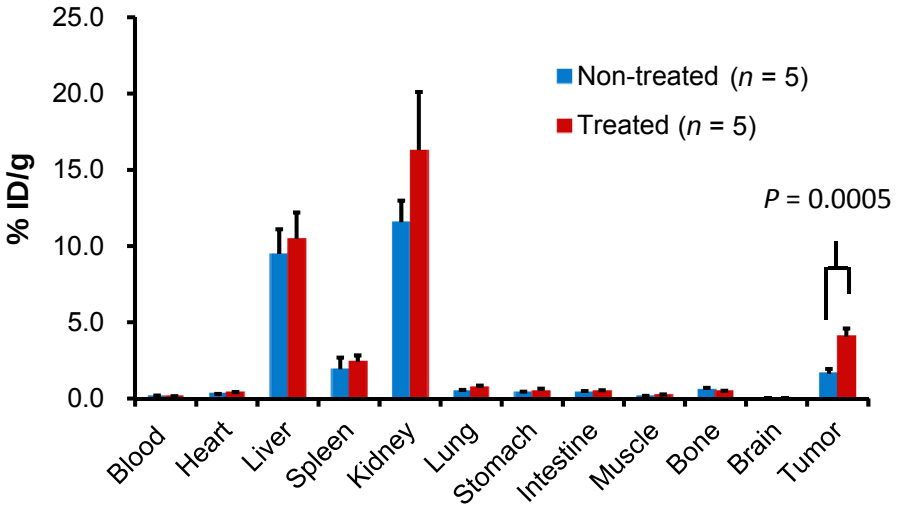
Supplemental Figure 3. Changes in tumor uptake values of radiotracers in B16/F10 tumors after therapy. (A) Changes of ^{18}F-FDG uptake, expressed as percentages of injection dose per gram tumor (%ID/g). (B) Changes of SAAC(^{99m}Tc)-PSBP-6 uptake, expressed as percentages of injection dose (% ID). An1-An5, animals 1-5.



Supplemental Figure 4. Representative autoradiographs and photographs of H&E-, TUNEL-, and active-caspase 3–stained slides of B16/F10 tumors from a non-treated mouse (A) and a PG-TXL-treated mouse (B). Tumors were removed at 4 hours following i.v. injection of SAAC(^{99m}Tc)-PSBP-6. Red in fluorescent microphotographs shows TUNEL-positive apoptotic cells; blue represents DAPI-stained cells.



Supplemental Figure 5. Biodistribution of SAAC(^{99m}Tc)-PSBP-6 in C3H/HeJ mice bearing 38C13 lymphoma. Mice in treated group received i.p. injection of cyclophosphamide.



Supplemental Figure 6. Biodistribution of SAAC(^{99m}Tc)-PSBP-6 in nude mice bearing B16/F10 melanoma. Mice in treated group received i.v. injection of PG-paclitaxel.