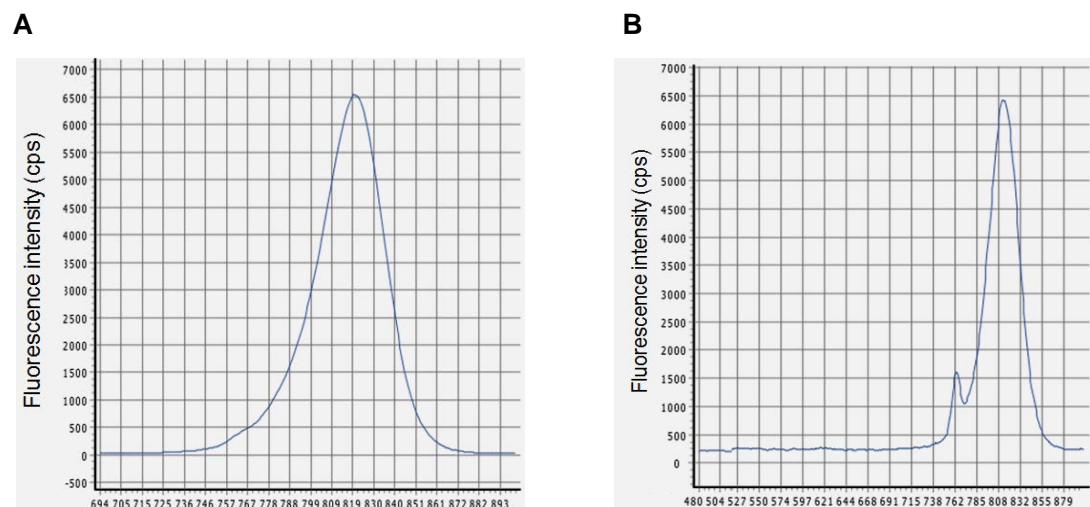
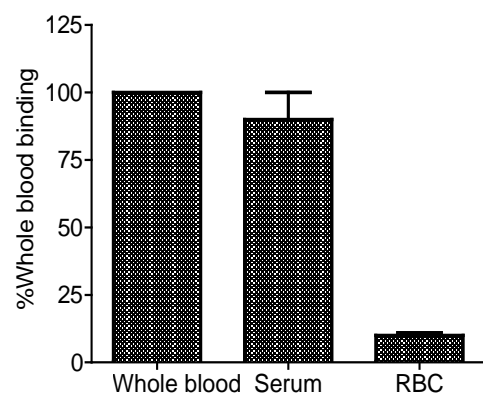


Supplemental Figure 1. Spectroscopic analysis.



A. Optimization of emission wavelength of MHI-148 is 820 nm. **B.** Optimization of emission wavelength of Ga-MHI-148 is 813 nm. Optimal excitation wavelength of MHI-148 and Ga-MHI-148 are both 767 nm.

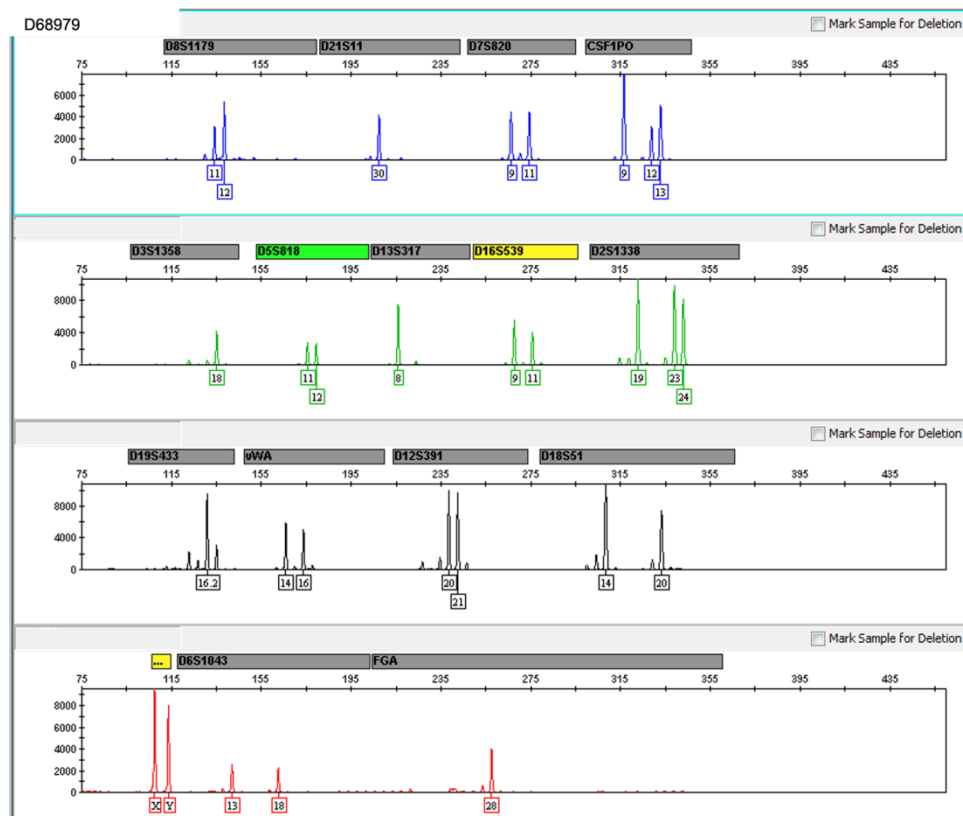
Supplemental Figure 2. Blood distribution of ^{68}Ga -MHI-148 at 1 h.



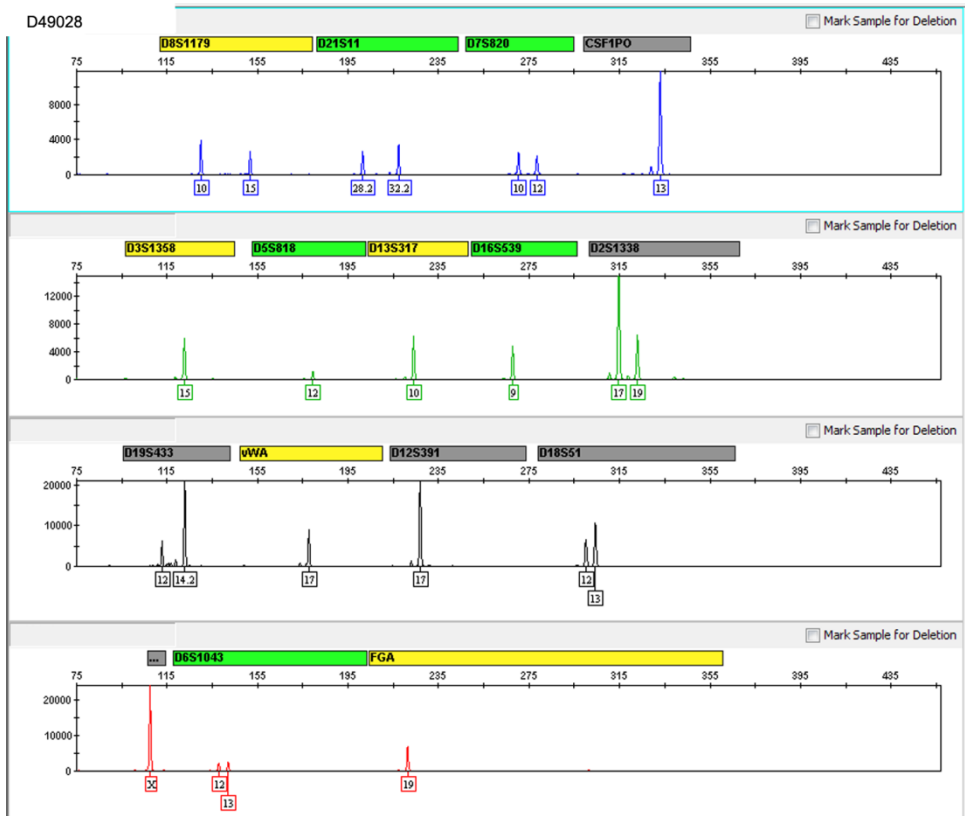
About 90% of the probe bound to the serum instead of red blood cells (n=5).

Supplemental Figure 3. STR analysis results of tumor DNA

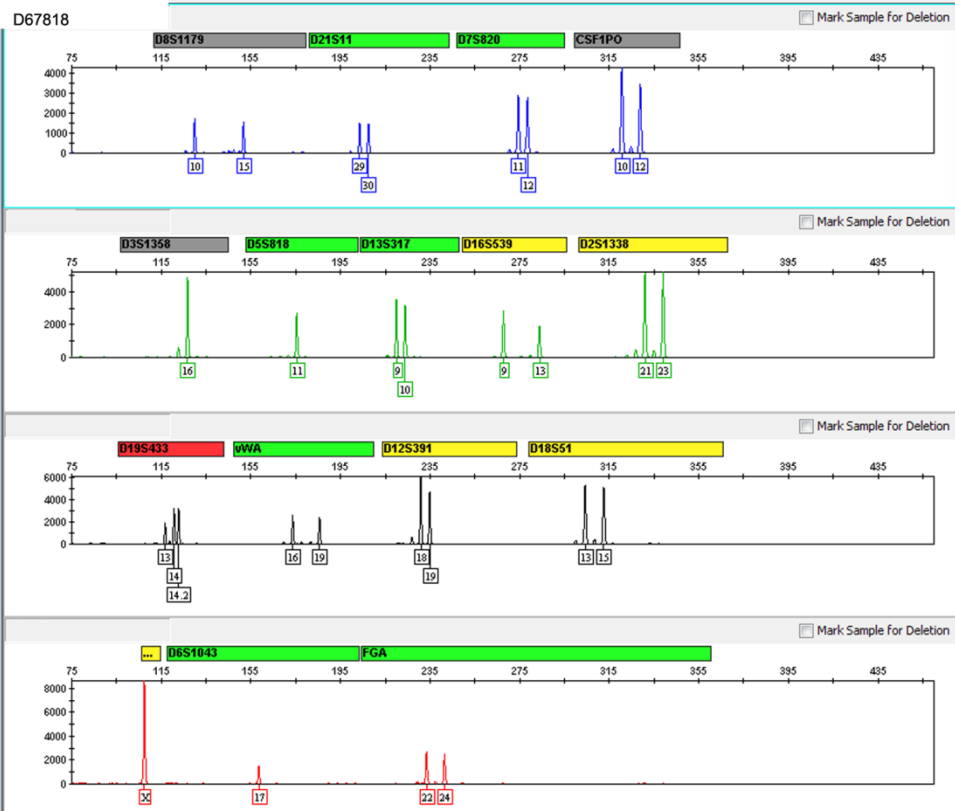
Tumor tissue DNA from PDX model (D68979, D49028 and D67818) was subjected to STR analysis. All 16 human-specific loci were detected signals, and the tumor DNA matched the human-specific loci >99.99% of the time, confirming that the tumors were human-derived.



D68979



D49028



D67818