Supplementary Information

Imaging of Fibroblast Activation Protein Alpha Expression in a Preclinical Mouse Model of Glioblastoma Using Positron Emission Tomography

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Figure S1. *In vitro* serum stability of $[^{89}\text{Zr}]\text{Zr-Df-Bz-F19}$. Serum stability studies ($n = 3$) demonstrate that the radiopharmaceutical remains more than 96% intact after 7 days in human serum at physiological temperature.
Table S1. Biodistribution of $[^{89}Zr]Zr$-Df-Bz-F19 in U87MG tumor bearing mice (n ≥ 4; %/ID/g)

| Tissue/Organ | 2 h   | 24 h   | 48 h   | 72 h | 72 h Blockade |
|-------------|-------|--------|--------|------|--------------|
| Blood       | 23.72 ± 2.92 | 15.54 ± 5.43 | 10.74 ± 3.70 | 11.11 ± 3.10 | 11.31 ± 2.70 |
| Heart       | 11.25 ± 0.91 | 7.40 ± 1.32 | 5.09 ± 1.42 | 5.58 ± 1.04 | 5.89 ± 1.75 |
| Lung        | 16.38 ± 2.85 | 8.17 ± 2.20 | 6.35 ± 1.33 | 6.96 ± 1.79 | 7.11 ± 0.91 |
| Liver       | 7.12 ± 1.40 | 6.81 ± 1.48 | 6.13 ± 2.48 | 6.06 ± 1.78 | 5.89 ± 0.88 |
| Kidney      | 5.82 ± 0.85 | 4.11 ± 0.74 | 3.56 ± 0.67 | 4.05 ± 1.26 | 3.85 ± 0.41 |
| Spleen      | 6.64 ± 0.50 | 5.72 ± 1.75 | 5.49 ± 1.62 | 6.01 ± 1.45 | 5.09 ± 1.54 |
| Muscle      | 1.92 ± 0.35 | 1.98 ± 0.26 | 1.87 ± 0.30 | 1.97 ± 0.44 | 1.74 ± 0.34 |
| Bone        | 5.72 ± 1.62 | 6.53 ± 1.32 | 4.79 ± 1.79 | 8.33 ± 1.45 | 7.24 ± 1.67 |
| Tumor       | 5.94 ± 0.84 | 14.61 ± 3.99 | 13.56 ± 2.62 | 16.40 ± 3.65 | 9.60 ± 1.90 |
| Pancreas    | 3.20 ± 0.41 | 3.28 ± 1.20 | 2.30 ± 0.61 | 2.59 ± 0.81 | 2.24 ± 0.61 |
| Stomach     | 1.36 ± 0.50 | 1.84 ± 0.40 | 1.10 ± 0.30 | 1.53 ± 0.53 | 1.53 ± 0.37 |
| Large Intestine | 3.49 ± 0.32 | 3.24 ± 1.07 | 2.10 ± 0.47 | 1.90 ± 0.44 | 2.00 ± 0.29 |
| Small Intestine | 3.86 ± 0.84 | 3.44 ± 0.59 | 2.37 ± 0.58 | 2.65 ± 0.89 | 2.31 ± 0.32 |
Figure S2. Standard uptake value quantification of $[^{89}\text{Zr}]\text{Zr-Df-Bz-F19}$ from PET/CT imaging study. $[^{89}\text{Zr}]\text{Zr-Df-Bz-F19}$ was retained in FAP$^+$ tumor tissue but not FAP$^-$ tissues such as muscle over the 72 h time course.
Figure S3. Binding data of $[^{89}\text{Zr}]\text{Zr}-\text{Df-Bz-F19 mAb}$.