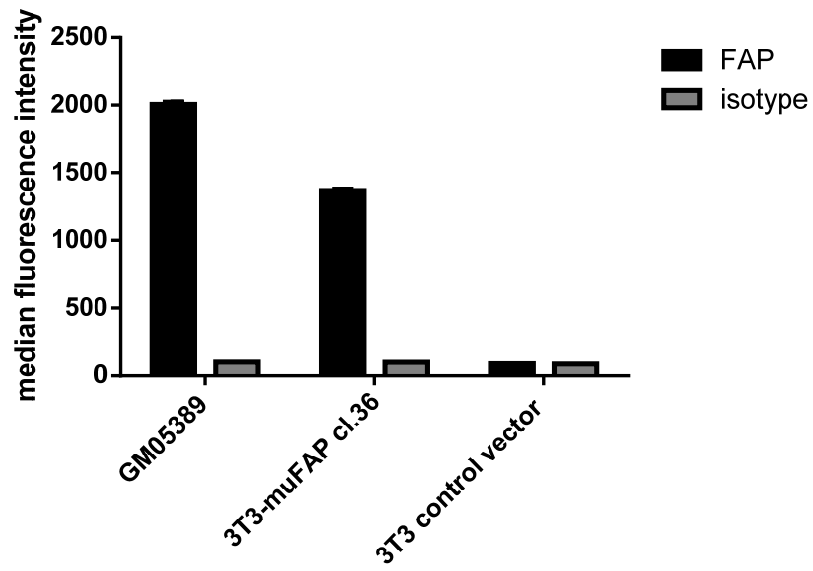
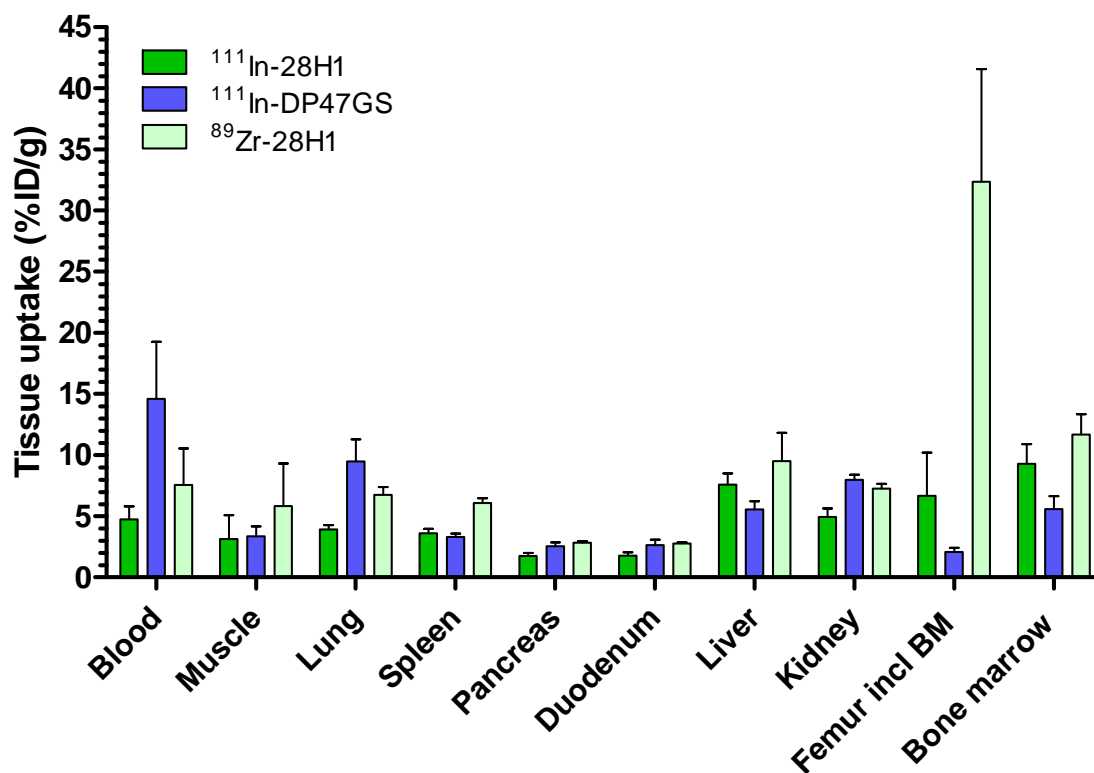


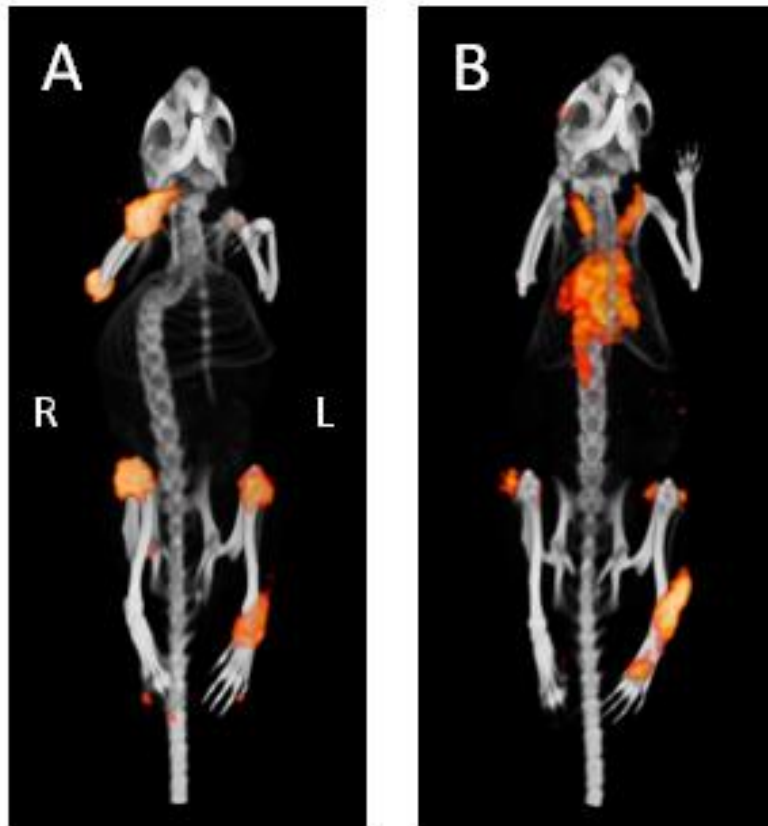
**Supplemental Figure 1.** Immunohistochemistry of an arthritic knee with 28H1 (A) and DP47GS (B) and of a knee from a healthy mouse stained with 28H1 (C).



**Supplemental Figure 2.** Human fibroblasts GM05389 and murine fibroblasts 3T3 stably transfected with muFAP were stained with anti-FAP antibody 28H1 and the respective isotype control. Binding of the antibodies were detected by flow cytometry.



**Supplemental Figure 3.** Organ distribution of  $^{111}\text{In-28H1}$ ,  $^{111}\text{In-DP47GS}$  or  $^{89}\text{Zr-28H1}$  in arthritic mice (n=5/group), dissected at 72 h p.i. Tissue uptake is expressed as %ID/g. Error bars represent standard deviation. BM = bone marrow.



**Supplemental Figure 4.** 3D SPECT/CT scans of mice with collagen-induced arthritis, injected with 15 MBq  $^{111}\text{In}$ -labeled antibody (50  $\mu\text{g}$ ).  $^{111}\text{In}$ -28H1 at 72 h p.i. (A) with joints scores of 1.75, 0, 0.25 and 1.5 (front right, front left, hind right, hind left, respectively). Radiotracer uptake is clearly visible in the inflamed joints. (B)  $^{111}\text{In}$ -DP47GS at 72 h with joints scores of 0, 0, 2 and 0.5 (front right, front left, hind right, hind left, respectively). R and L indicate right and left side of mice, respectively. All images are scaled similarly.



**Supplemental Figure 5.** PET/CT scan (3D) of a healthy mouse, injected with 5 MBq  $^{89}\text{Zr}$ -28H1 and scanned at 72 h p.i. Bone uptake is visible in the hind legs, most likely uptake of unchelated  $^{89}\text{Zr}$  and/or bone marrow uptake of  $^{89}\text{Zr}$ -28H1. R and L indicate right and left side of mice, respectively.