

## **Supplemental Figure Legend**

**Supplemental Figure S1:** The affinity of 2G10 and 3C6 Fabs and IgGs for MDA-MB-231 cells was determined by binding equilibrium flow cytometry. Isotherms were fit using non-linear regression methods to calculate  $K_{DS}$

**Supplemental Figure S2:** Scrambled matched isotype control IgGs labeled with AlexaFluor 680 at 72hrs in MDA-MB-231 xenografts imaged in the Cy 5.5 channel at 72hr.

**Supplemental Figure S3:** Time activity curves for  $^{111}\text{In}$ -labeled 2G10 and 3C6 in MDA-MB-231 orthotopic xenograft tumor-bearing mice.

**Supplemental Figure S4:** Determining the half-life of the  $^{111}\text{In}$ -labeled antibodies in vivo (n = 3 mice / antibody).

**Supplemental Figure S5:** Additional SPECT/CT images of the uPAR probes imaging the MDA-MB-231 CDM.

**Supplementary Figure S6:**  $^{177}\text{Lu}$ -2G10 SPECT/CT imaging of a mouse enrolled in the RIT study. The mouse was injected with 2.5 $\mu\text{g}$  of 2G10 labeled with 75 $\mu\text{Ci}$  of  $^{177}\text{Lu}$ . The image shown is a coronal view acquired at 24hrs post-injection. The represented data was processed using AMIDE software.

**Supplementary Figure S7:** Mouse model recreating the inflammation observed in Figure 4C. A nude mouse was injected subcutaneously with 100 $\mu\text{l}$  of turpentine oil. After 72hrs, the animal was injected with 258 $\mu\text{Ci}$  of FDG and imaged 60 minutes later. Probe uptake by the inflammatory cells is only observed with FDG and not with the uPAR probe.

**Supplemental Figure S8:** FDG avid lesion not detected by  $^{111}\text{In}$ -2G10