



Supplemental Figure 1. Analysis of mAb binding to human and mouse carcinoma cells. Anti-EpCAM mAb 153 or G8.8 was incubated with either human MCF7 or mouse 4T1 cells. The mouse anti-human EpCAM mAb 153 and rat anti-mouse mAb G8.8 were detected with species-specific secondary antibodies, PE-labeled anti-mouse IgG and DyLIGHT 488-labeled anti-rat IgG, respectively. The geometric mean fluorescence intensity (MFI) was determined with a BD FACSCalibur Flow Cytometer using WinMDI2.9 software. Panel A demonstrates binding specificity of mAb 153 to human MCF7 cells, as shown by the increase in MFI for the cell population incubated with mAb 153 (right-most peak) relative to the MFI for cells incubated with only PE-labeled secondary antibody (left-most peak), while binding of mAb 153 to mouse

cells was not detectable (C), as shown by an MFI that was indistinguishable from that of the mouse cells incubated with only PE-labeled secondary antibody. Panels B and D demonstrate binding specificity of mAb G8.8 to mouse 4T1 cells and no detectable binding to the human cells. Additionally, the entire generated panel of anti-EpCAM mAbs were tested against 4T1 cells and, like mAb 153, demonstrated no detectable binding (data not shown).

Supplemental Video 1. DsRed fluorescence imaging video of animal LN staging. Longitudinal DsRed fluorescence imaging was performed *in vivo* at two-week intervals post-implantation of DsRed-expressing PC3 cells to monitor primary tumor growth and detect metastatic LNs if present. LN staging could be performed successfully *in vivo* for some mice, with or without holding the skin slightly taut. Metastases usually involved the lumbar LNs (as shown with holding), and sometimes medial iliac, renal, sciatic, inguinal, or popliteal LNs.