

Figure W1. FMT2500 and fused FMT-MR images. (A) A wild-type C57BL/6 mouse was injected with ProSense 680 and AnnexinVivo 750 at 24 and 2 hours before imaging, respectively. Upper panels show the three-dimensional fluorescent images acquired using the (a) 680-nm, (b) 750-nm, and (c) merged 680- and 750-nm channels of the FMT2500 imaging system. Each of the images in a to c were converted using AMIDE and are shown for the 750- and 680-nm channels (d and e) and merged 680- and 750-nm channels (f). (B) Fluorescent images acquired using the (a) 680-nm, (b) 750-nm, and (c) merged 680- and 750-nm channels of the FMT2500 imaging system from a tumor-bearing *TgMIS/IR-TAg* mouse injected with ProSense 680 and AnnexinVivo 750 at 24 and 2 hours before imaging, respectively. The regions corresponding to bilateral tumors are outlined in white (680-nm image, subpanel a).

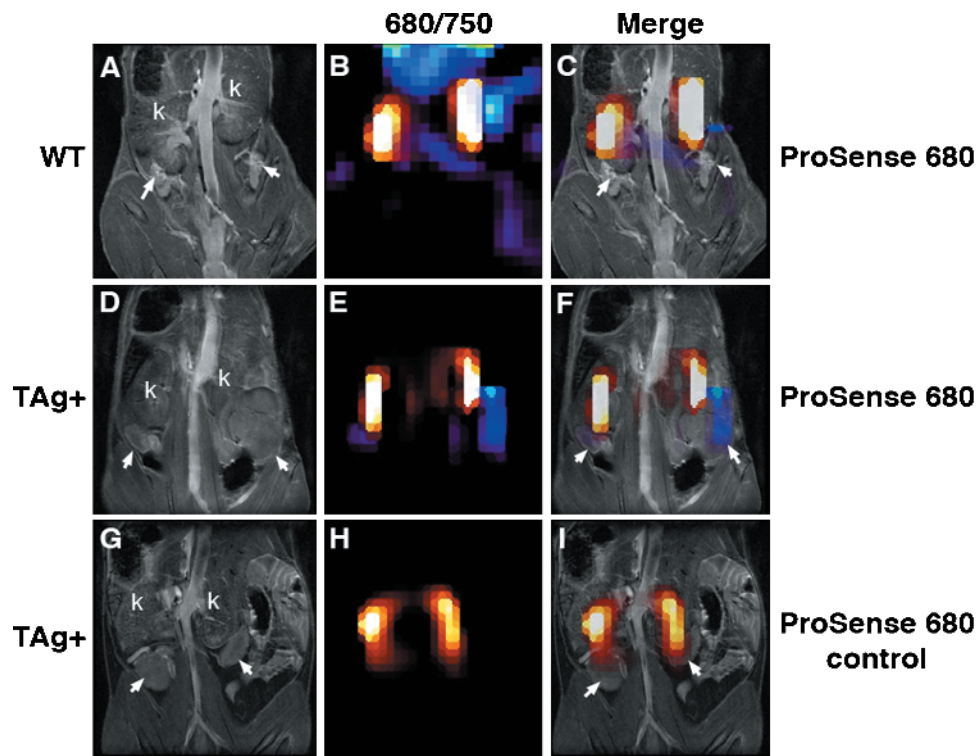
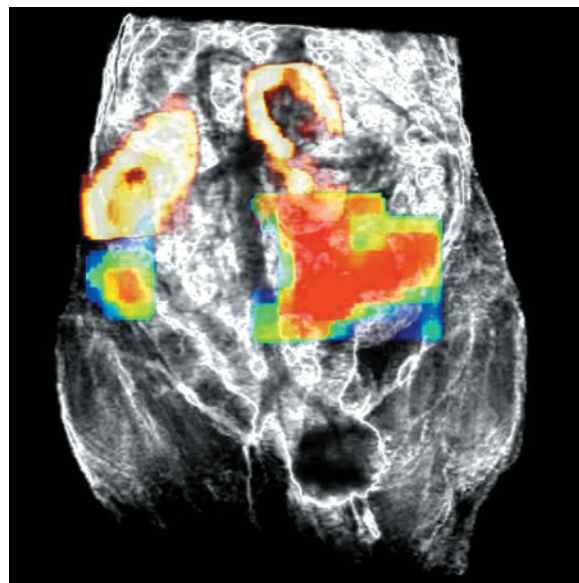


Figure W2. Alignment of MR and FMT images using AnnexinVivo 750. The MR and fluorescent FMT images from wild-type (WT) C57BL/6 and tumor-bearing *TgMISIR-TAg* (TAg+) mice injected with ProSense 680 and AnnexinVivo 750 (A-F) or ProSense Control probe and AnnexinVivo 750 (G-I) were aligned using AMIDE. (A, D, and G) MR images showing the ovaries and ovarian tumors (arrows) and kidneys (k). (B, E, and H) Fused images showing merged fluorescent signals detected in the 680- (ProSense or ProSense Control) and 750-nm (AnnexinVivo) channels. (C, F, and I) MR image aligned with both the fluorescent images, showing no probe activation in the normal (wild-type) ovaries (C) or in the ovarian tumors in control probe injected mice (I). Activated probe signal aligns with the ovarian tumors in the ProSense-injected mouse (F).



Movie W1. Three-dimensional rendering of images acquired by FMT and MRI. A *TgMISIR-TAg* transgenic mouse with bilateral ovarian tumors was injected with ProSense 680 and AnnexinVivo 750 and subjected to FMT and MRI scanning of the entire abdomen. The three-dimensional FMT and MRI data sets were then aligned using AMIDE and rendered to show the anatomic and fluorescent data in three dimensions.