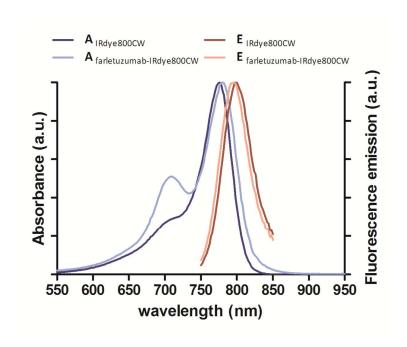
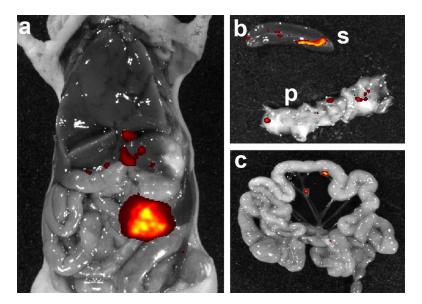
## **SUPPORTING INFORMATION**



**Figure S1** Absorption and emission spectra of DTPA-farletuzumab-IRDye800CW and IRDye800CW as measured with a microplate reader (Infinite Pro 200, Tecan Austria GmbH, Groedig, Austria).



**Figure S2** Fluorescence imaging visualizes multiple deeply located intraperitoneal IGROV-1 tumors (a, liver lift up). *Ex vivo* fluorescence imaging of resected organs (S: spleen, P: pancreas in b and bowel in c) reveals multiple focal lesions with high fluorescence intensity, suggestive for submillimeter tumor deposits that are barely visible to the naked eye.

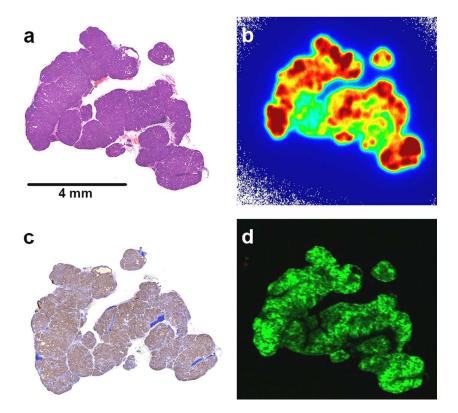
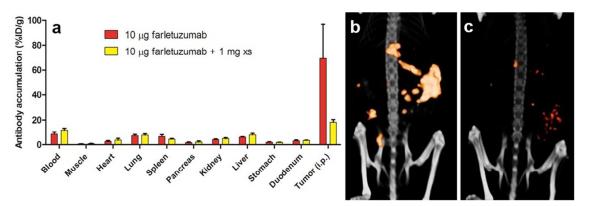


Figure S3 H&E-staining (a) demonstrated that tissues resected from the abdominal cavity were tumor lesions and the FR $\alpha$ -staining confirmed that tumors expressed the FR $\alpha$  (c). Co-localization was seen between the radioactive (b) and fluorescent signal (d) in tumor lesions.



**Figure S4** a. Uptake of  $^{111}$ In-farletuzumab-IRDye800CW in i.p. IGROV-1 tumors was significantly decreased by coinjection of 1 mg unlabeled farletuzumab. xs = excess unlabeled farletuzumab. B,c. microSPECT/CT 3 days p.i. of  $^{111}$ Infarletuzumab-IRDye800CW with excess cold (c) and without excess cold (b).