

Spatial FAP Expression as Detected by ^{68}Ga -FAPi-46 Identifies Myofibroblasts Beyond the Infarct Scar After Reperfusion

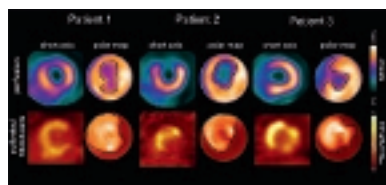


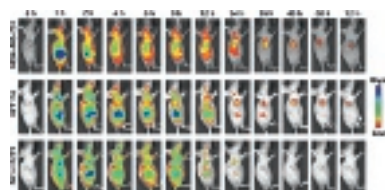
image spatial FAP expression and revealed non-uniform ^{68}Ga -FAPi-46

Fibroblast activation protein alpha (FAP) identifies activated myofibroblasts post-MI, however spatial distribution relative to the scar and areas at risk is unclear. Hess et al have used ^{68}Ga -FAPi-46 in mice and humans to

uptake extending from the infarct scar into the surviving myocardium and revealed a distinct FAP expression pattern post-MI.

See article by Hess et al. p. 173

Dual Targeting of Neuropilin-1 and Glucose Transporter for Efficient Fluorescence Imaging of Cancer



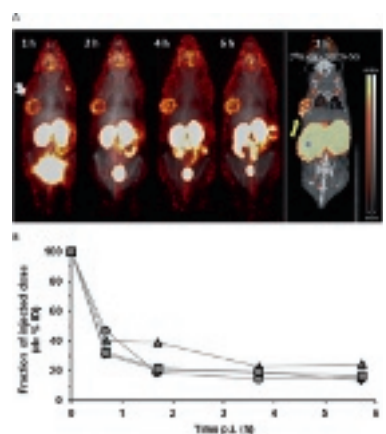
various tumor types. The expression levels of neuropilin-1 (NRP1) and glucose transporter 1 (GLUT1) in most tumors, including breast cancer, are closely linked to tumor proliferation and metastasis. Zhu et al synthesized a dual targeted fluorescent probe named NGF and

Early diagnosis and complete resection of cancer are pivotal for enhancing patient survival rates and prognosis. However, a significant current challenge lies in the lack of specific imaging probes for identifying

demonstrated via various assays that it bound specifically to NRP1 and GLUT1. The study highlighted the efficient targeting and sustained retention of a dual targeted probe, which could have clinical applications in fluorescence image-guided surgery.

See article by Zhu et al. p. 250

Evaluation of ^{18}F AlF NOTA-5G, an Aluminum ^{18}F fluoride Labeled Peptide Targeting the Cell Surface Receptor Integrin Alpha(v)beta(6) for PET Imaging

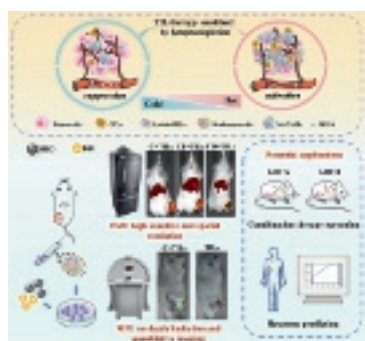


Recently, the $\alpha_v\beta_6$ -targeting gallium-68 labeled DOTA-5G peptide, ^{68}Ga [Ga]DOTA-5G demonstrated diagnostic value in patients with metastatic pancreatic cancer. To facilitate adoption at sites without access to gallium-68 and take advantage of the characteristics of fluorine-18 through convenient ^{18}F fluoride chelation chemistry, this study evaluated the fluorine-18 labeled analog, ^{18}F AlF NOTA-5G, *in vitro* and *in vivo* in a tumor mouse model, and compared it to ^{68}Ga [Ga]

DOTA-5G. Hausner et al revealed that ^{18}F AlF NOTA-5G demonstrated selective $\alpha_v\beta_6$ -targeting and tumor uptake similar to ^{68}Ga [Ga]DOTA-5G. The synthesis of ^{18}F AlF NOTA-5G is currently being optimized for clinical production.

See article by Hausner et al. p. 285

Optical-magnetic Imaging for Optimizing Lymphodepletion-TIL Combination Therapy in Breast Cancer



Lymphodepletion before tumor-infiltrating lymphocytes (TIL) infusion can activate the immune system, enhance the release of homeostatic cytokines, and decrease the number of immunosuppressive cells. However, the challenge of *in vivo* assessing TILs targeting tumors limits the optimization of lymphodepleting conditioning regimen (LDC). This study used magnetic particle imaging (MPI)

and fluorescence molecular imaging (FMI) to monitor TIL biodistribution *in vivo* and optimize LDC in triple-negative breast cancer TIL therapy. The results of Li et al confirm the utility of optical-magnetic dual-modality imaging for tracking the biodistribution of TILs *in vivo*.

See article by Li et al p. 260