



A Molecular Probe for *In Vivo* Detection and Monitoring of HER2 Expression in Breast Cancer



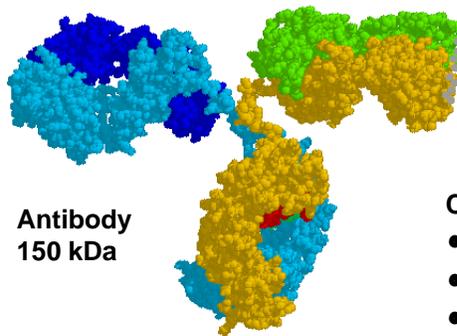
TEDCO/NIH/NCI Technology Showcase

Jacek Capala

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Technology: Affibody® Molecules



Antibody
150 kDa

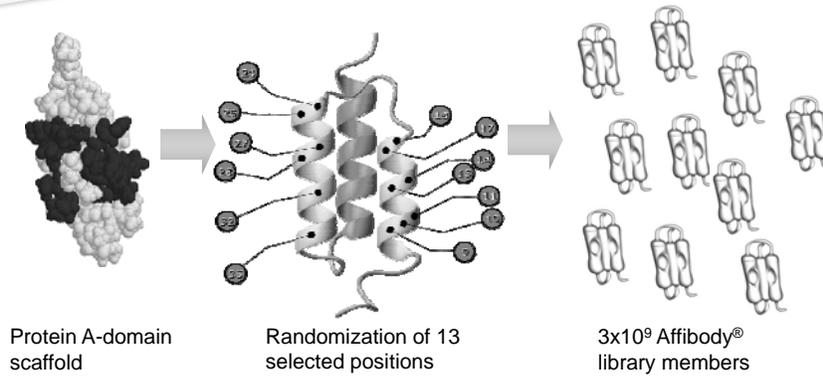
Affibody® Molecule
6-7 kDa



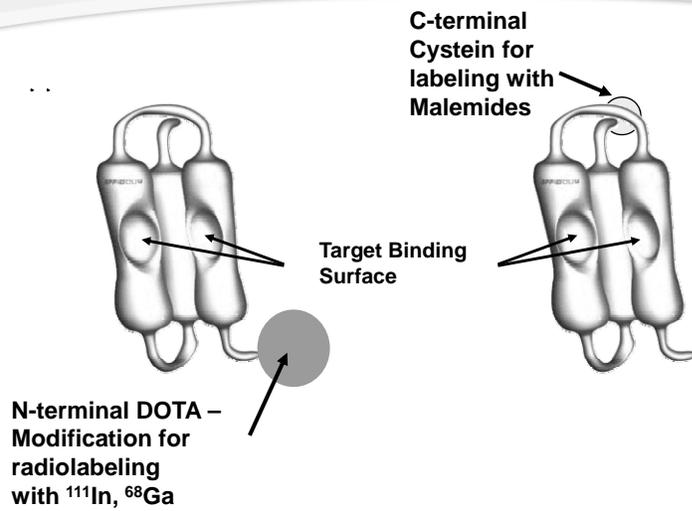
Competitive Advantages

- High affinity and selectivity
- Robustness
- Rapid clearance
- Engineering flexibility
- Production flexibility

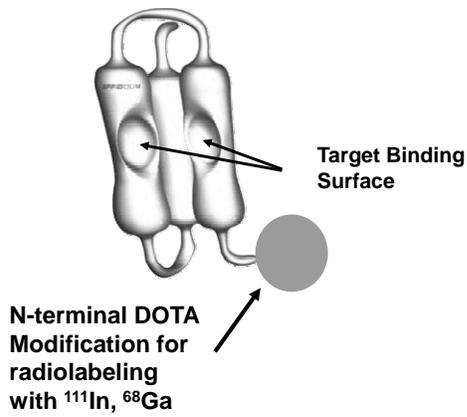
A Library of Possibilities



Directed Chemistry

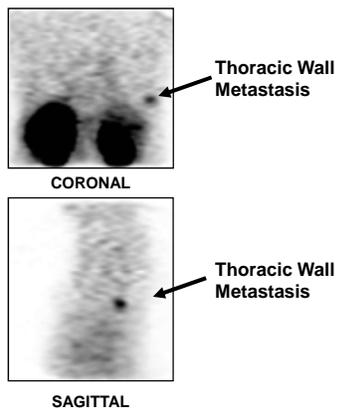


Directed Chemistry



ABY-002 - Clinical P-o-C in SPECT with ^{111}In

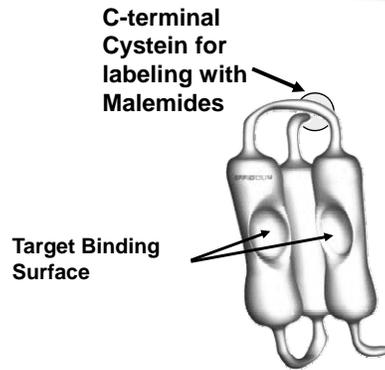
**SPECT using ^{111}In ABY-002:
HER2 positive metastasis**



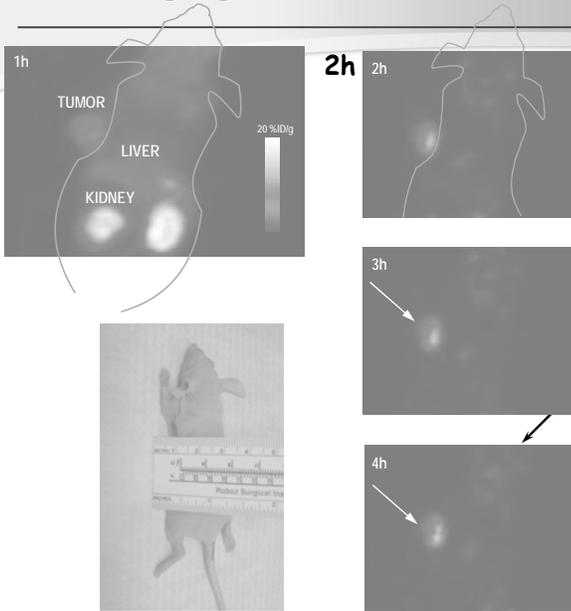
**PET using ^{18}F FDG:
increased metabolism**



Directed Chemistry



PET Imaging of a HER2-Positive Tumor



Serial whole body micro-PET images of mouse bearing HER2-positive tumor after i.v. injection of ^{18}F -Z_{HER2} Affibody molecule.

Commercial Applications

Diagnosis:

- Identification of patients for HER2-targeted therapies
- Monitoring of changes in HER2 expression as response to therapy

Therapy:

- HER2-targeted delivery of radionuclides or toxins

Collaboration Opportunities

- **License of ^{18}F -labeled tracer (patent application pending)**
- **Tri-lateral CRADA with NCI and Affibody AB, Sweden**

Contact Information

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