

« SÉMINAIRE NATIONAL IMAGERIE OPTIQUE *IN VIVO* »

17 & 18 SEPTEMBRE 2015 – AVIESAN (PARIS)

APPEL À MANIFESTATION D'INTÉRÊT
PROPOSITION DE PROJET

medicen | innovation
PARIS REGION for
health



Nanofitins[®] as new imaging probes
Olivier KITTEN - AFFILOGIC



MAIRIE DE PARIS

île de France



seine saint denis
LE DÉPARTEMENT



AGENCE NATIONALE DE LA RECHERCHE
ANR

bpi france



▶ 1. NEW IMAGING PROBES



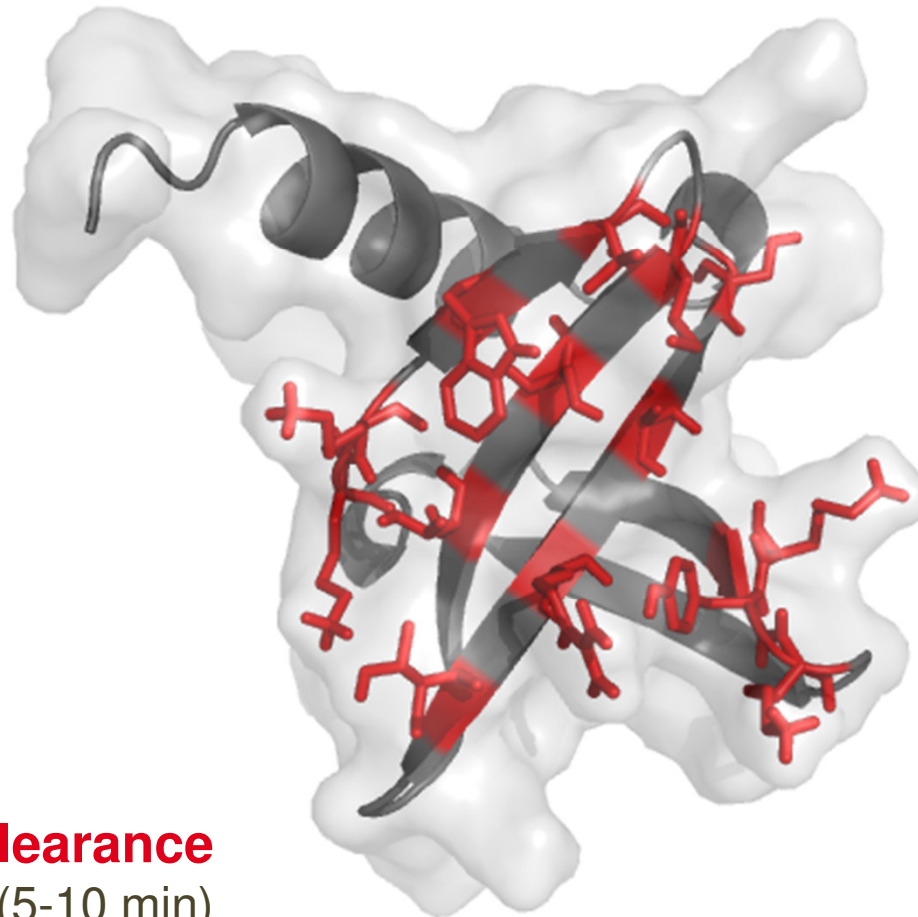
medicen
PARIS REGION

Nanofitins[®], imaging probes with optimal PK profile

**20 times smaller
than mAbs**

**High affinity on
membrane
receptors**

Fast blood clearance
Short half-life (5-10 min)



Easy labeling
High solubility /
stability

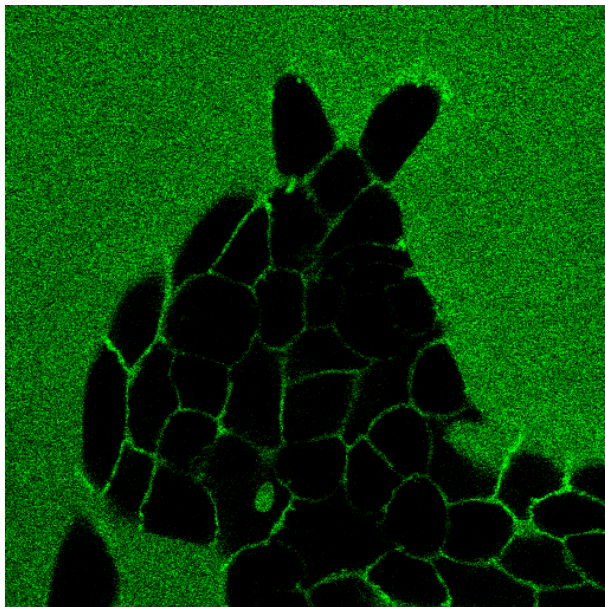
**Low predicted
immunogenicity**

**Cost effective
manufacturing**
E.coli fermentation

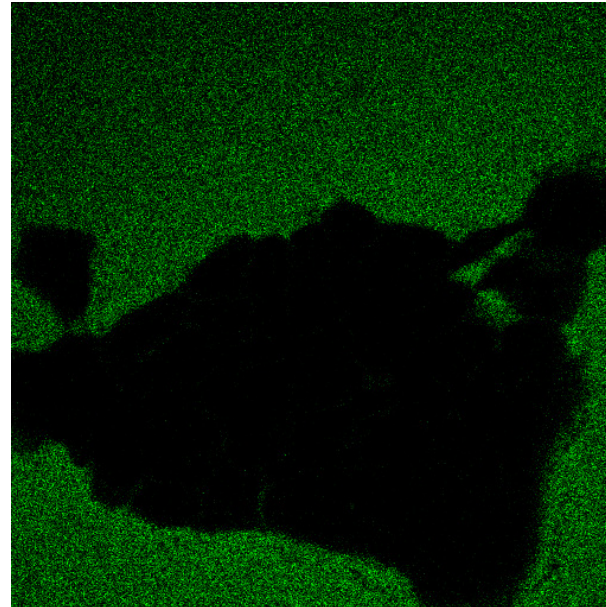
▶ 2. IN VITRO TUMOR LABELLING



Very fast, efficient and specific membrane labeling



Nanofitins® against receptor



Irrelevant Nanofitin®

**Fast accumulation
of fluorescence on
cells membrane**

Visible after few
seconds

No targeting observed
with negative control

▷ 3. *IN VIVO* TUMOR TARGETING



Specific, fast, high-contrast radiolabeling of tumors

Collaboration with Cyclotron Research Center (Université de Liège)

Low background noise

Nanofitins[®] rapidly labelling the tumor or rapidly eliminated

Good expected tumor penetration

small size + high affinity

Publication pending

▶ 4. PROJECTS



Radiolabelled Nanofitins[®] for non-invasive diagnosis and monitoring of solid tumors

- Quick results
 - > short stay in hospital
- Short half-life of radioisotopes
 - > reduce waste and limit waste management
- 18-F available everywhere
 - > easy to implement

Fluorescent Nanofitins[®] for detection and assistance to surgical treatment or monitoring

- Visually enhanced localization
 - > Lung cancer (inhalation)
 - > GI cancer (oral)
 - > Colorectal cancer (rectal)
- Specificity (tumor targeting)
- Sensitivity (flexible fluorescence)

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