

# « SÉMINAIRE NATIONAL IMAGERIE OPTIQUE *IN VIVO* »

17 & 18 SEPTEMBRE 2015 – AVIESAN (PARIS)

APPEL À MANIFESTATION D'INTÉRÊT  
OFFRE DE SERVICES

**medicen** | innovation  
PARIS REGION for  
health



*PRESTATAIRE*

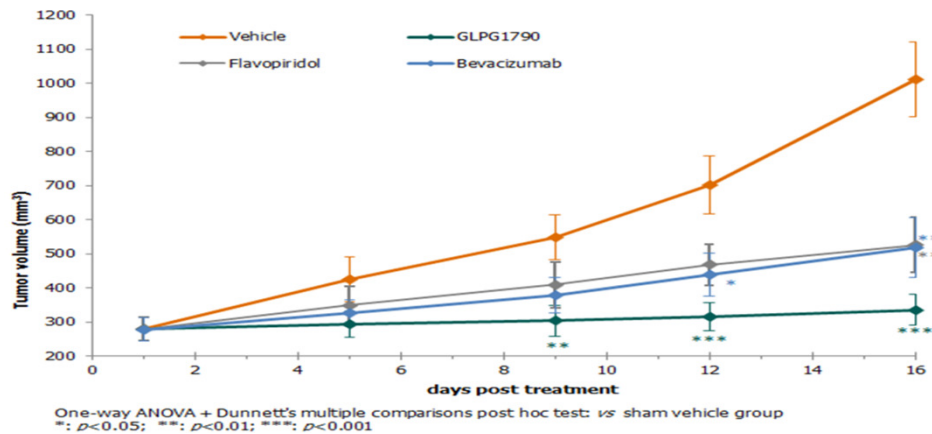
*(Philippe Clément-Lacroix GALAPAGOS & Benjamin Fouquet BRUKER)*



# Simultaneous non-invasive in vivo imaging of apoptosis and angiogenesis in a mouse MDA-MB-231 xenograft model

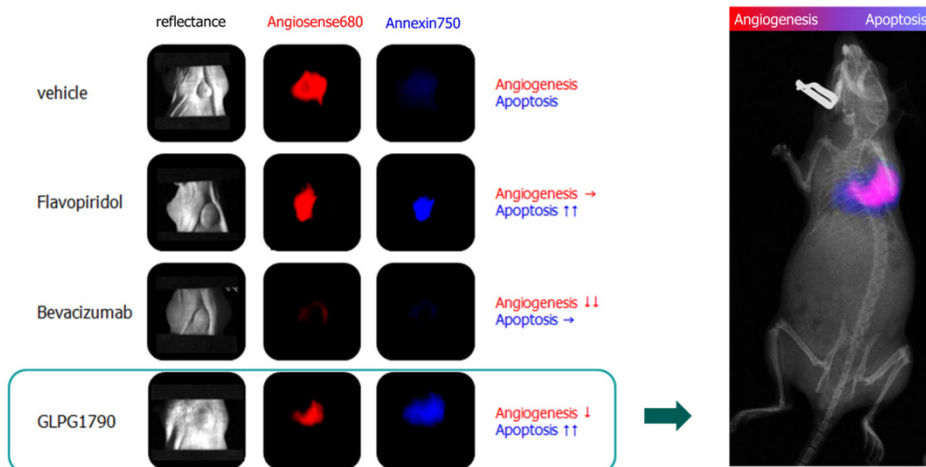


## Tumour volume evolution

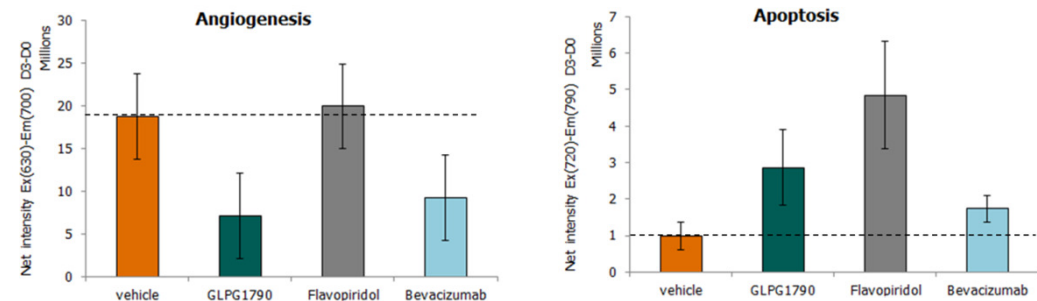


## In vivo imaging studies at day 3

Representative reflectance and fluorescence images for visualization of the effects of Flavopiridol, Bevacizumab and GLPG1790 on angiogenesis and apoptosis.

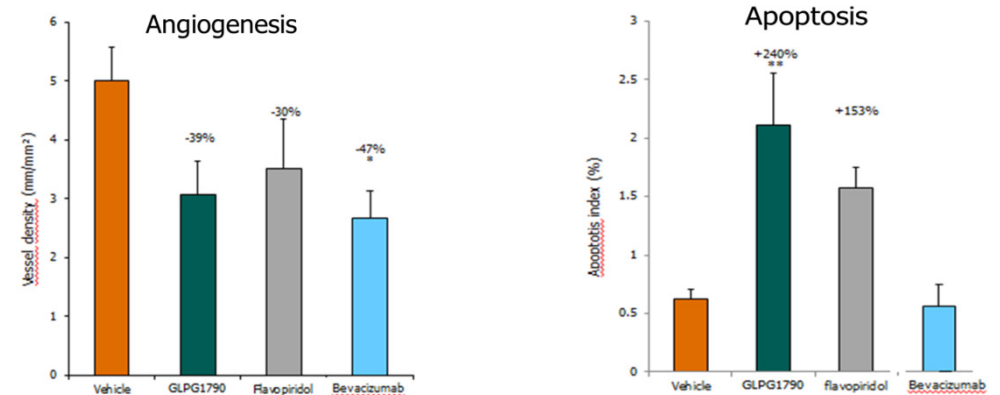


After 3 days of treatment (D3), angiogenesis and apoptotic activities were assessed. Semi-quantitative analysis was performed using the Molecular Imaging Software (Bruker).



## Histology analysis of angiogenesis and apoptosis

This non-invasive and early readout has been cross-validated with immunohistological analyses

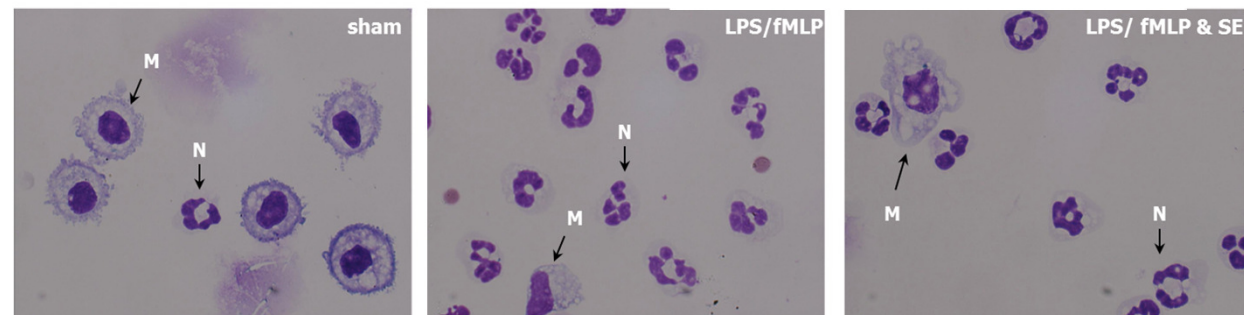
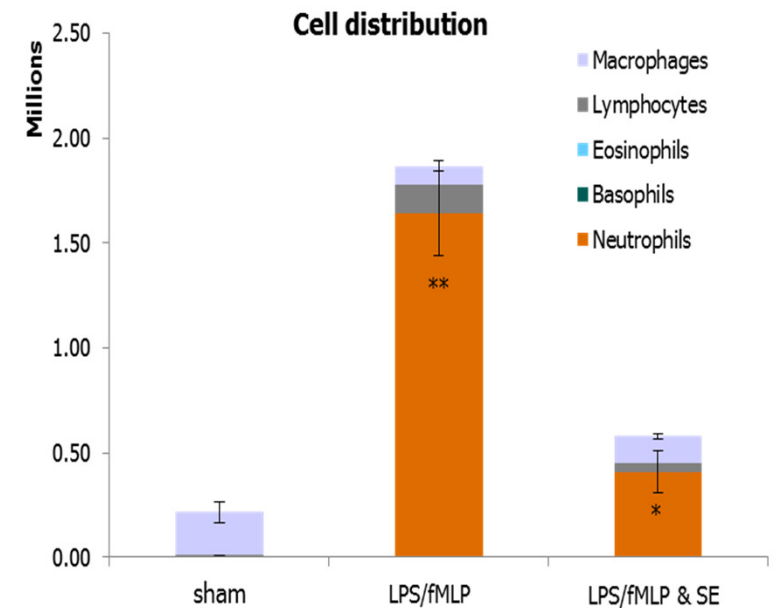
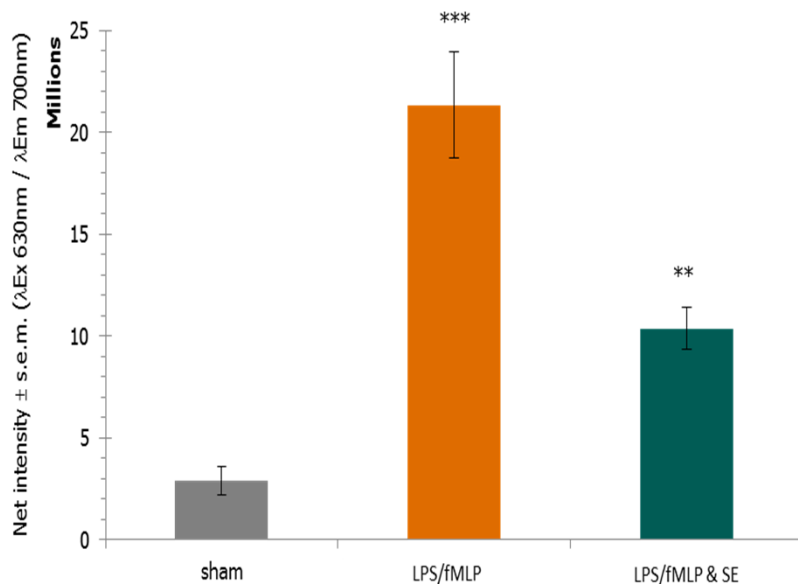
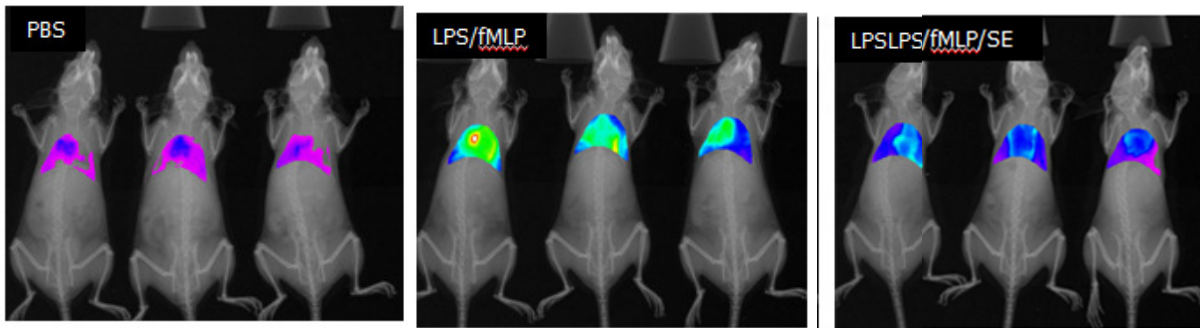


- Flavopiridol trended to decrease angiogenesis and to increase apoptosis.
- Bevacizumab reduced significantly angiogenesis with no effect on apoptosis.
- GLPG1790 reduced angiogenesis and increased apoptosis.

Using molecular imaging, as early as D3, we identified anti-tumorigenic mechanisms of action of new compound with a small number of mice.

# ▶ Non-invasive near-Infrared fluorescence imaging of neutrophil infiltration in a mouse model of acute lung inflammation

Multimodal *in vivo* imaging of neutrophil elastase activity in a mice model of acute lung inflammation induced by LPS inhalation.



Cell distribution in Broncho alveolar lavage fluids from a mice model of acute lung inflammation.

▷ In-Vivo Xtreme II  
Bruker's most advanced preclinical Optical/X-ray  
imaging system



High resolution X-ray

Multispectral Fluorescence

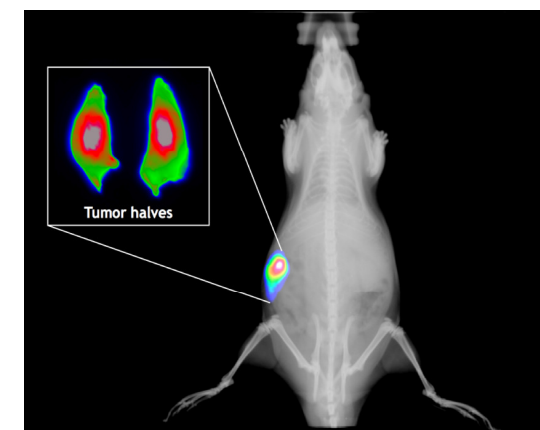
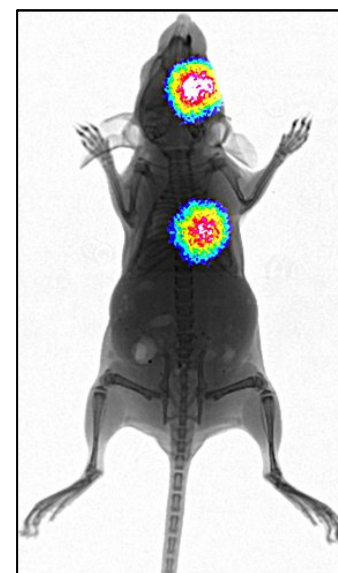
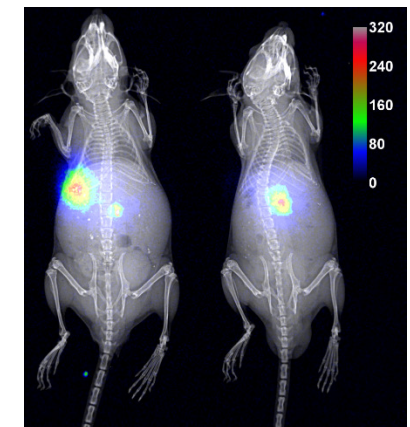
Bioluminescence Imaging

Cherenkov Imaging

Direct Radionuclide Imaging

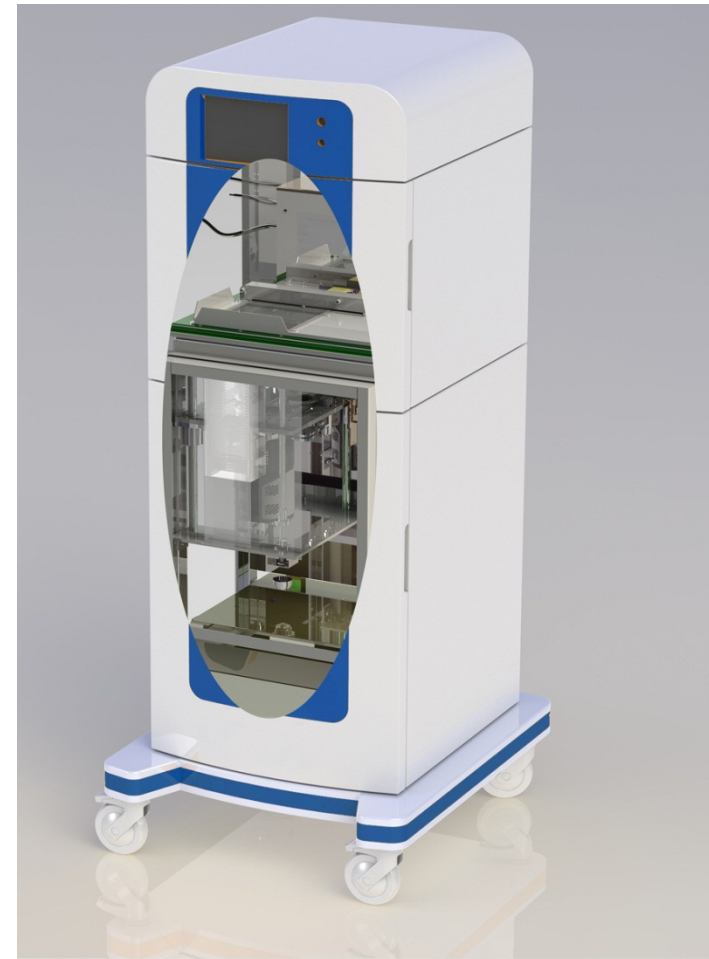
Reflectance Imaging

MATS for more modalities  
and image fusion



## The **Bruker In-Vivo Xtreme II**

- Multimodal, multipurpose System
- Best optics and camera in class
- Choice of two (three) cameras
- Quantum Efficiency of > 95%
- Combines powerful modalities in one system
- Only system that is able to perform DRI (patented design) next to CLI
- 2D & 360\* degree imaging



## ▷ 3. CONTACT



### • ***Adresse, mail, téléphone :***

- Philippe Clément-Lacroix, Galapagos,  
102 avenue Gaston Roussel, 93230 Romainville,  
[philippe.clement-lacroix@glpg.com](mailto:philippe.clement-lacroix@glpg.com) , 33 (1) 49 42 47 28

- Benjamin Fouquet, Bruker BioSpin MRI GmbH,  
Rudolf-Plank-Str. 23, 76275 Ettlingen, Germany  
[benjamin.fouquet@bruker.com](mailto:benjamin.fouquet@bruker.com) , +49 721 5161-6602