



PHOTONIMAGER™ MACROLENS MODULE

HIGH-RESOLUTION IN VIVO OPTICAL IMAGING

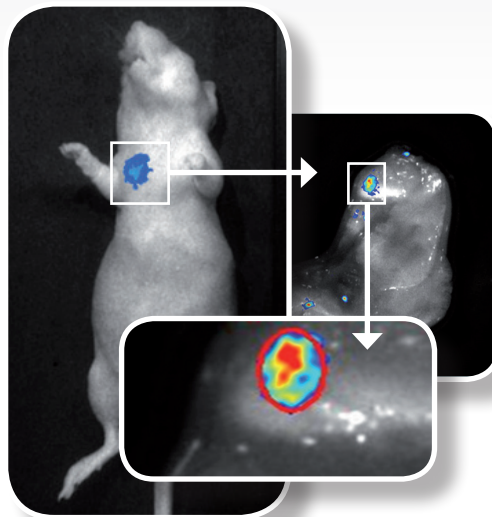


Image optical signals from whole body to cellular level

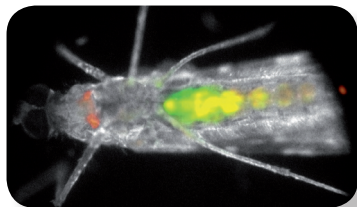
Correlate results from whole body and microscopic investigation

Track cell growth or migration

Focus on smaller group of cells

MACROLENS MODULE - BUILDING A MISSING LINK

With the development of the Macrolens Module for the PhotonIMAGER™ system, Biospace Lab has introduced the first fully integrated system for in vivo bioluminescence and fluorescence microscopy - building the missing link between whole body and high resolution in vivo optical imaging.



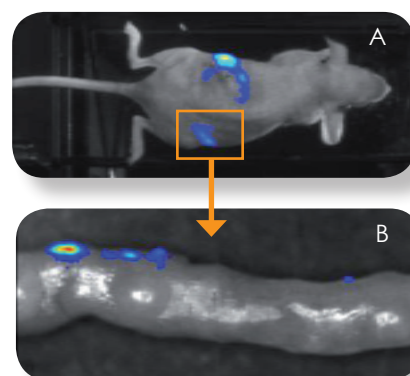
Fluorescence image acquisition of a mosquito expressing DsRed in its salivary glands and infected with malaria sporozoites expressing GFP - High resolution multi-label imaging (courtesy of Dr Shigetoshi Yoshida)

IMAGE IN VIVO AT HIGH RESOLUTION

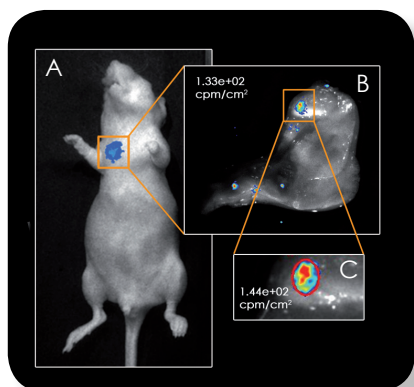
- Acquire and quantify the expression of optical signals at higher magnification and resolution
- Image organs and tissues in situ without animal sacrifice
- Image ex vivo without tissue sectioning
- Position and focus on signals using the animal stage moving in 3 dimensions

GATHER INFORMATION AT DIFFERENT SPATIAL RESOLUTIONS

- Image both fluorescence and bioluminescence from the whole animal to tissue, organ or even cellular level
- Correlate quantitative results from whole-animal and microscopic investigations
- Discriminate between closely spaced signals



A. Mouse with pancreas cancer cells expressing luciferase; metastasis in the intestines B. Ex vivo imaging with the Macrolens Module (Urolead, France).



TRACK AND FOCUS

- Track cells non-invasively at the macroscopic level throughout an entire animal
- Assess cell growth, spreading or migration at the level of the organ or at a specific anatomic location
- Focus on smaller groups of cells at the microscopic level, detect metastases easily

The module reveals metastasis that cannot be seen with whole body acquisition. A. Bioluminescence acquisition of lung metastasis 10 days after injection of human melanoma cells. B. Bioluminescence acquisition of lungs using the Macrolens Module. C. Digital zoom on the largest metastasis.

UNRIVALLED SENSITIVITY & RESOLUTION

	PhotonIMAGER RT	PhotonIMAGER OPTIMA
Bioluminescence	YES	YES
Fluorescence	YES	YES
Maximum Field of View	17 x 13 mm	20 x 15 mm
Minimum Field of View	3.4 x 2.8 mm	4 x 3 mm
Spatial Resolution	from 3.5 μ m to 17 μ m	from 2.5 μ m to 12.5 μ m