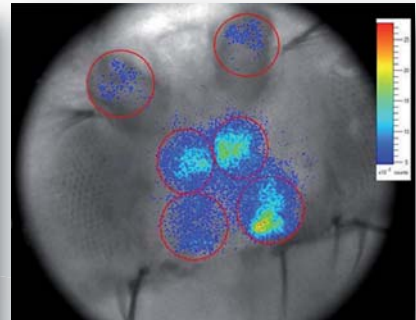
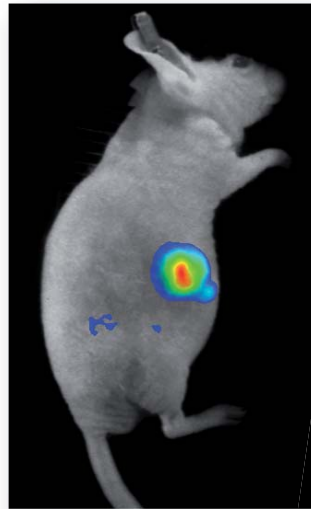




Photon Imager

In Vivo Optical Imaging System

Real-time in Bioluminescence & Fluorescence



Biodistribution
Cancer Research
Gene Expression
Infectious Diseases
Neurosciences
Pharmacokinetics
Stem Cells

The Photon Imager™ is a unique system for detecting, localizing, quantifying dynamically bioluminescence or fluorescence signals of your in vivo and in vitro experiments. Its design, with its intensified CCD, makes it extremely sensitive from the first second of the acquisition and able to record the kinetics of dynamic signals.

The real-time capabilities of the Photon Imager™ brings you decisive advantages for your strategy with optical imaging: control, kinetic information, sensitivity.

The Photon Imager™ is equipped by user-friendly softwares: Photo Vision™ for the acquisition and the new analysis software developed by the Biospace Lab expertise for the whole range of our instruments (Optical, Autoradiography and Scintigraphy): M³Vision™.

The philosophy of the Photon Imager™ is to help you keep on track with the latest advances, by developing add-on modules to the system instead of changing completely its design.

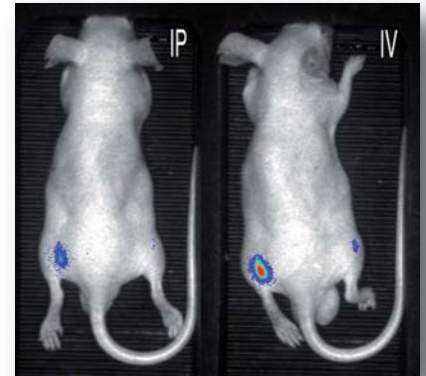
Bioluminescence & Fluorescence Imaging

- Full spectrum imaging capability from blue to near-infrared in bioluminescence and fluorescence:
 - Continuous selection of excitation wavelength from 400 to 800 nm
 - Equipped with 6 high pass emission filters (530, 570, 615, 660, 700 and 770 nm)
- Automatized autofluorescence subtraction



Unmatched Performance with intensified CCD

- The most sensitive system on the market for detection of weak signals
- No read out noise
- No more guessing, with continuously displays of your experiment
- No more binning and exposure time settings prior to imaging
- Ultra fast kinetic studies thanks to signal kinetics available with high temporal resolution (23 ms)



IV/IP injection comparisons. Keyaerts and al [1]

Fast and user-friendly

- High throughput system (5 mice image at the same time)
- Ease of manipulation (sliding stage, continuous field of view)
- Especially designed for physiological stability of your animals (heating stage, anaesthesia bar)
- Immediate optimization of your imaging procedure thanks to the real-time signal display
- Easy comparison of different imaging modalities with M³Vision™ Analysis Software

Main Applications of the Photon Imager™

Gene Expression

Gene Therapy
Physiological Studies

Stem Cells

Tracking & Proliferation
Stem Cell Therapy Studies

Developmental Biology

Phenotyping Studies
Longitudinal Studies of Animal Development

Oncology Research

Tumor Growth Monitoring
Metastases Detection
Tumoral Angiogenesis
Therapeutic Treatment Responses



Neurosciences

Neuron Precursor Migration
Calcium Imaging

Infectious Diseases

Pathogen Tracking & Monitoring
Response to Therapy

Biodistribution & Pharmacokinetics

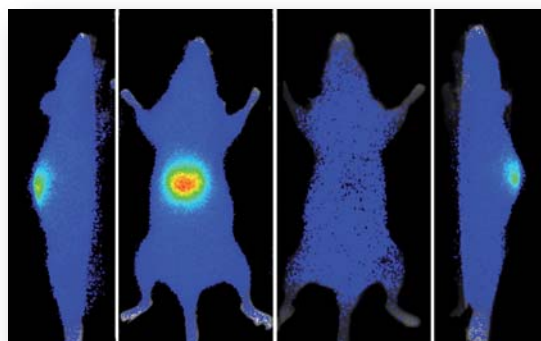
Drug Development

[1] From Keyaerts et al, Dynamic bioluminescence imaging for quantitative tumour burden assessment using IV or IP administration of D-luciferin, Eur J Nucl Med Mol Imaging, May (2008) Images courtesy from J.R. Martin, Alfred Fressard Neurobiology Institute, CNRS, France; M. Keyaerts, T. Lahoutte, VUB, Belgium.

Use of this product to practice in vivo imaging in animals (the detection of light emitted from within animals) does not imply or convey a license to practice in vivo imaging in animals, as covered by patents controlled by other corporations. Biospace Lab disclaims any and all responsibility for, or liability with regard to, another Corporation's patent rights or licenses.

An upgradable system with state-of-the-art technology development

- In Actio® module for freely moving animal imaging (co-registration of signal and photographic acquisition)
- 4View module for multi-angle acquisition
- MacroLens module for high resolution imaging
- Macro2Micro module for micron-resolution imaging
- Tunnel Holder for imposing animals (rabbits, monkeys,...)



Technical specifications

Camera	
Sensor	Intensified CCD Camera (3 rd Generation) 18 mm diameter
Objective Lens	24 mm, f/1.4-22 Computer controlled diaphragm and focus
Operating Temperature	- 25°C (Only for the Intensified Tube)
Performance	
Detection Spectral Range	370 nm - 920 nm
Temporal Resolution	23 ms (Full frame)
Minimum Detectable Radiance	75 photons/s/sr/cm ²
Binning	Unnecessary due to the technology (Single Photon Counting) Always full frame with the same sensitivity
Dynamic Range	> 5.0 orders of magnitude
CCD Read Noise	No contribution to image
Dark Current Noise	25 e ⁻ /s/cm ²
Field of View (FOV)	Continuous from 24 x 18 cm (5 mice) to 8 x 6 cm (1 mouse)
Spatial Resolution	Up to 50 µm (<5 µm with add-on modules)
Illumination	
Source	150 W Halogen
Fluorescence	Selectable Multi-Wavelength
Filters	
Excitation Filters	Continuous selection from 400 nm to 800 nm bandwidth: 20 nm, steps: 5 nm
Emission Filters	6 high-pass filters: 530, 570, 615, 660, 700 and 770 nm Other wavelengths are available under request
Selection	Fully automatized
Autofluorescence Substraction	Fully automatized with acquisition software
Multilabelling Capability	Yes
Animal Management	
Gas Anesthesia	Connectors are available, Full system optional
Heated Stage	From 25°C to 45°C
Imaging Chamber Size	25 x 26 x 38 cm (WxDxH)
System Requirements	
Operating Systems	Windows 2000/XP/Vista
Power Consumption	Maximum : 1,5 kW at 230 V or 115 V
Dimensions	60 x 65 x 105 cm (WxDxH)
Weight	75 kg

VERSION: January 2009