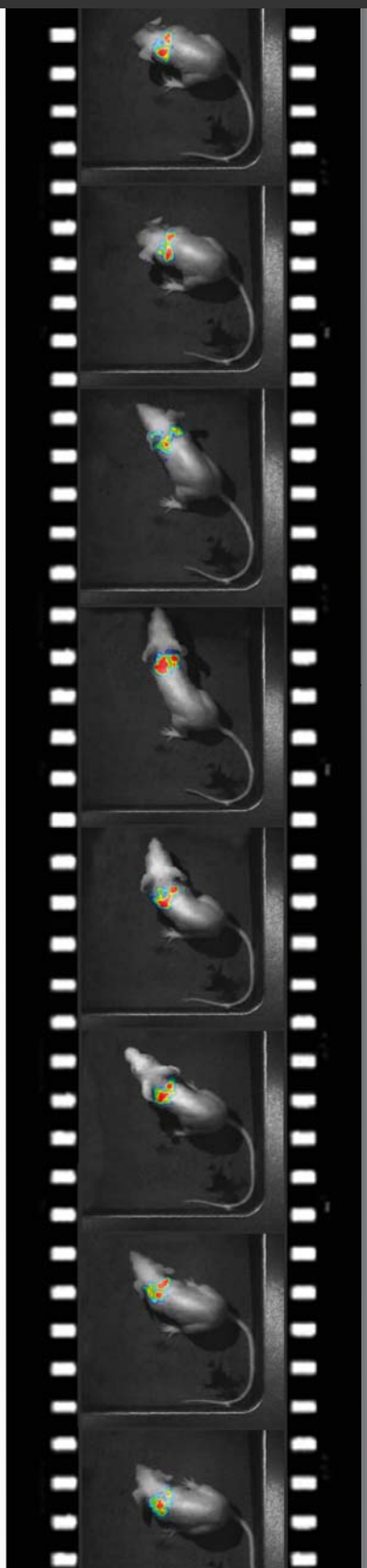
biospace lab See life in real time

# In Actio® Module

## A Photon Imager™ Add-on Module

## Optical Imaging on Freely Moving Animals



The In Actio® Module, an add-on of the Photon Imager™, records real time co-registration videos of moving animals, simultaneously with bioluminescence signals.

The Photon Imager™ extends its imaging capabilities: the dynamic signal acquired on anesthetized animals can be now obtained on freely moving ones. This opens new ways to design imaging protocols, by getting rid of anesthesiaand of its impact on animal physiology, and with the possibility to acquire signal linked with animal motion.

Behavioural Studies

Calcium Imaging

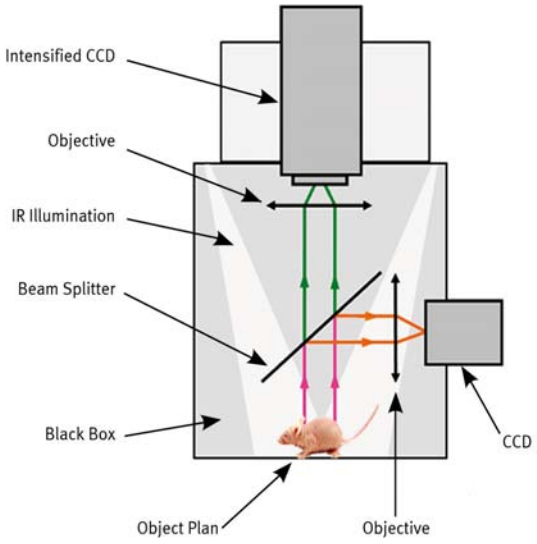
Cancer Research

Neurosciences

biospace lab

# In Actio® Imaging Principle

The patented "In Actio®" imaging principle adds a video acquisition to your optical imaging experiments.
This is done by illuminating the animal with an infrared laser. This signal coming from animal is a combination of the infrared lighting and your biological signal. It is split with the dichroic beamsplitter ("hot mirror").
The localization lighting is then only recorded by a dedicated CCD camera as the intensified CCD camera continues to acquire, as usual, the biological signal.
Acquisitions are done at 45 frames per second.




# Technical specifications

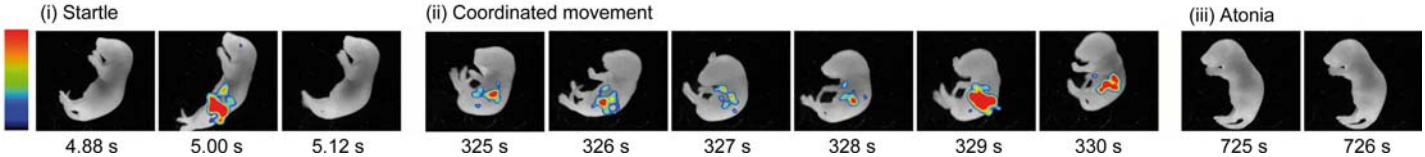
- Field of view: 21 x 15 cm
- Frame rate: 45 frames per second synchronized with BLI and FLI
- Spatial resolution: 200 µm
- Co-registration video: Illumination with a 780 nm laser (70mW)
- Usual unique features and sensibility of the Photon Imager™
- Fusion movies and synchronized quantitation software

# In Actio® Advantages

- Physiological relevance: Observe physiological and pathological phenomena free from anesthesia disturbance
- Reduced animal preparation: Anesthesia is not required anymore
- High throughtput: Free to anesthesia and severals animals can be imaged simultaneously

# Applications of the In Actio® Imaging

- Molecular approaches to behavoral studies (Example: Calcium flux during sleep and wake cycles)
- Functional physiological studies, with calcium imaging during muscular contraction
- Biodistribution of therapeutic molecules in awake animals
- Delayed luminescence nanodots imaging




Distinct mitochondrial $Ca^{2+}$ responses in newborn mice are linked to different behavioural states.
*Courtesy of K. Rogers & al. Non-invasive in vivo imaging of calcium signaling in mice, PLos ONE, 2 (10): e974 (2007)*

biospace lab

**10, rue Mercoeur, 75011 Paris, France**
**185, Alewife Parkway #410 Cambridge, MA 02138, USA**

**t+ 33 (0)1 55 25 60 60 I f+ 33 (0) 55 25 60 61**
**t+ 1 909 938 9470 I f+ 1 909 982 3034**
**info@biospacelab.com I www.biospacelab.com**