

IR VIVO™



IR VIVO is an infrared multispectral platform for small animal in vivo imaging. This system benefits from reduced light scattering, absorption and auto-fluorescence by using a detection system in the near and short wave infrared. This allows for deeper, clearer and more quantitative imaging compared to commercially available in vivo imaging systems. IR VIVO takes advantage of the most recent developments in SWIR imaging with an ultra-low noise InGaAs camera (Alizé 1.7), novel homogeneous illumination and a powerful analytical software to provide an unprecedented combination of fast, high resolution and deep imaging.

MULTISPECTRAL PRECLINICAL IMAGER

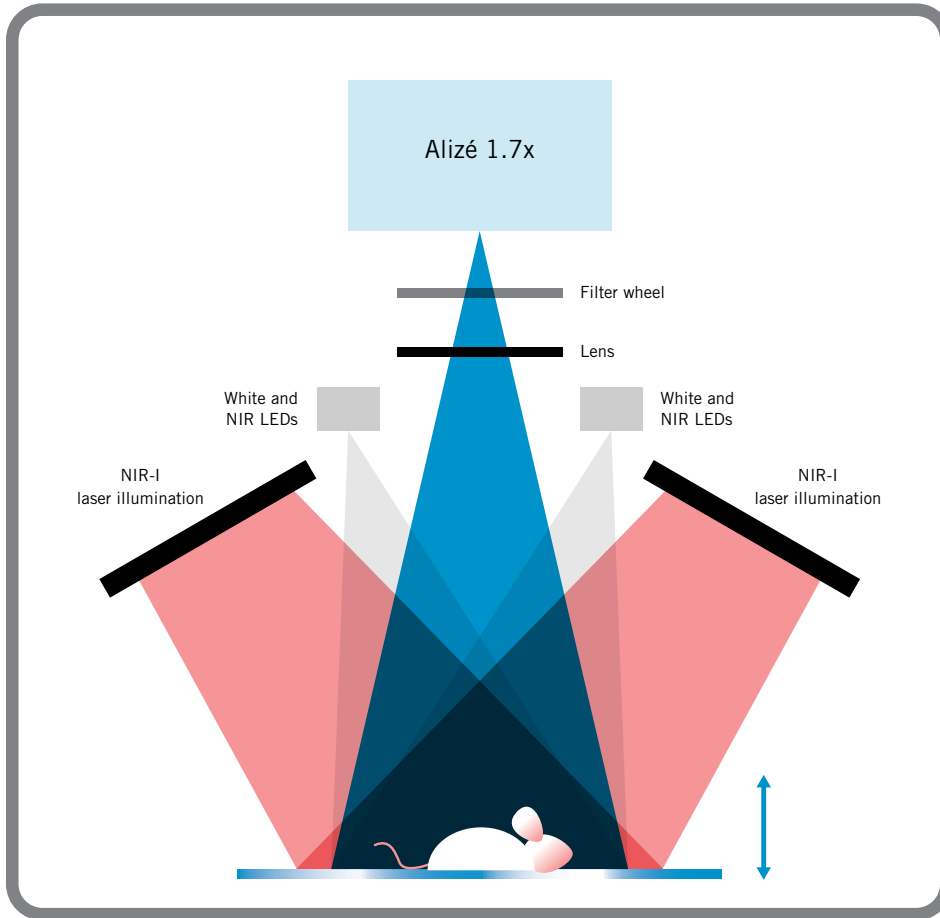
IR VIVO™ PRECLINICAL IMAGING SYSTEM OPENS A NEW WINDOW ON LIVING BODIES

| TECHNICAL SPECIFICATIONS | |
|------------------------------------|---|
| Emission spectral range | 850-1620 nm <i>Extension available in the visible</i> |
| Filtering | Filter wheel with up to 6 emission channels |
| Illumination source | Choose up to 4 wavelengths from 670, 785, 808, 890, 915, 940, 975 and 1064 nm (other wavelengths available upon requests) |
| Illumination area | 15.6 x 12.5 cm for three mice model |
| Lens | F#/1.4 and motorized [automatic focus](bold) with 2 options: 1. Macro lens for individual organ or full body view of a mouse. (FOV: 77 x 62 mm to 50 x 40 mm) 2. Macro and wide lenses on mechanical rail (manually interchangeable) for up to 3 mice imaging. (FOV: 156 x 125 mm to 50 x 40 mm) |
| Dimensions (L x W x H) | Tabletop: 77 x 60 x 98 cm |
| Stage temperature | Up to 40°C |
| Preprocessing | Spatial filtering, statistical tools, data normalization, temporal profile extraction |
| Single image data format | HDF5, FITS, PNG, JPG |
| Software | PC (Windows10 - 64-bits) with PHYSpec™ control and analysis software (Computer included) |
| Power requirement | 120 VAC / 12A / 60Hz 230 VAC / 12A / 50Hz |
| Acquisition modes available | Filtered or unfiltered (broadband for reflectance imaging) |
| CAMERA | |
| Type | InGaAs (Alizé™ 1.7) |
| FPA | 640 x 512 pixels |
| Pixel size | 15 µm |
| Lens | Wide lens: 30mm focal length, f#/1.4 NIR-II Macro lens: 50mm focal length, f#/1.4 NIR-II |
| Quantum efficiency | >70% from 900 to 1600 nm |
| OPTIONS & ACCESSORIES | |
| Anesthetic tubing and nosecone | 3 mice anesthetic gaz manifold supplied |
| <i>In vivo</i> NIR-II spectrometer | For real-time acquisition of spectrum on single point. |
| Motorized stage | 1. XY manually mobile with Z motorized 2. XYZ motorized |

NIR-II IMAGING PROPERTIES

- » High spatial resolution
- » High temporal resolution (real-time dynamics)
- » Non-ionizing & non-invasive
- » Good penetration depth
(10x greater than market leading small animal optical imaging systems)

IR VIVO MULTISPECTRAL



EXAMPLES OF NIR-II IMAGING APPLICATIONS

- » Microvasculature visualization
- » Cancer imaging
- » Translational research in optical surgical navigation
- » Blood flow and metabolic monitoring
- » Cell environment monitoring (pH, lipid, mRNA)
- » Heart beat and respiratory rates monitoring contact-free

MONITOR METABOLIC RATES ACCUMULATION AND EXCRETION

