

IR VIVO™

PRECLINICAL IMAGER

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



Using the first (NIR) and second biological window (NIR-II) from 900-1620 nm, Photon etc.'s IR VIVO™ preclinical imager provides multispectral or hyperspectral infrared imaging capabilities for in vivo studies on small animals or living organisms. It combines micron-scale spatial resolution, real-time imaging and full spectral coverage throughout small animals. Emission of several fluorophores can be isolated with a high-efficiency tunable filter and ultra-low noise scientific-grade InGaAs camera.

TECHNICAL SPECIFICATIONS

Emission Spectral Range	500 - 1630 nm
Filter Types	Multispectral: Filter wheel Hyperspectral: HyperCube™
HyperCube™ Spectral Resolution	< 4 nm
Illumination Source	750 or 808 laser @ 1mW/mm² <i>Other sources available upon request</i>
Illumination Area	15.6 x 12.5 cm field of view for 3 mice model
Field of view	Variable from 5 x 4 cm to 15.6 x 12.5 cm
Overall Instrument Dimensions	Tabletop: 75 x 115 x 75 cm (Expected to change)
Stage Temperature	Up to 40°C
Anesthetic tubing and nosecone	3 mice anesthetic gaz manifold supplied
Computer	PC with Windows 7 - 64 Bits
Imaging Software	PHySpec™ control and analysis software (Computer included)
Spectral Data Format	HDF5, FITS
Single Image Data Format	HDF5, CSV, JPG, PNG, TIFF
Preprocessing	Spatial filtering, Statistical tools, Spectrum extraction, Data normalization, Spectral calibration
Power Requirement	120 VAC / 12 A / 60 Hz
Acquisition Modes Available	Unfiltered (Broadband)
Lens	28 mm focal, f#/1.4 NIR-II lens

CAMERA

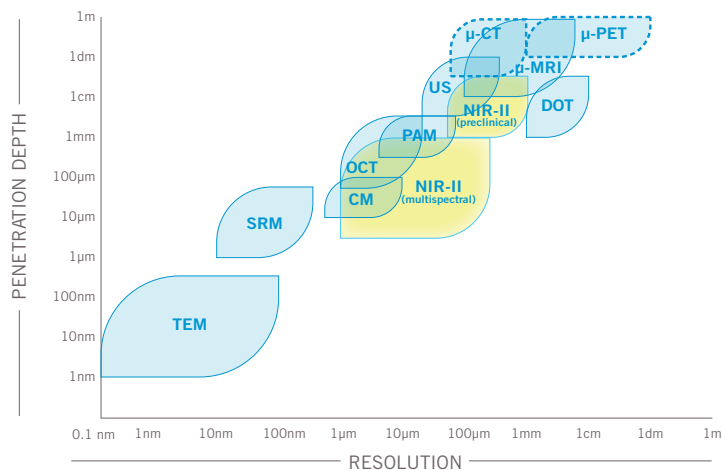
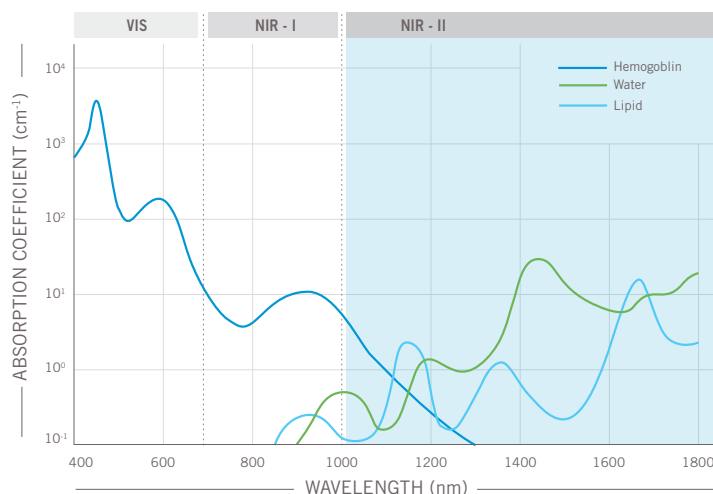
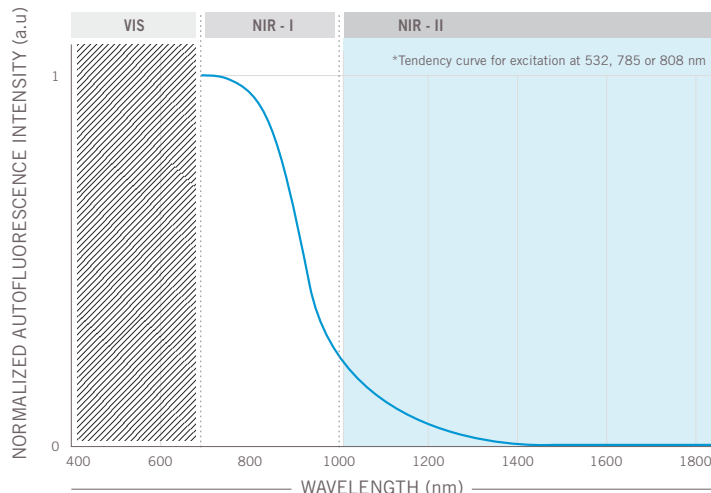
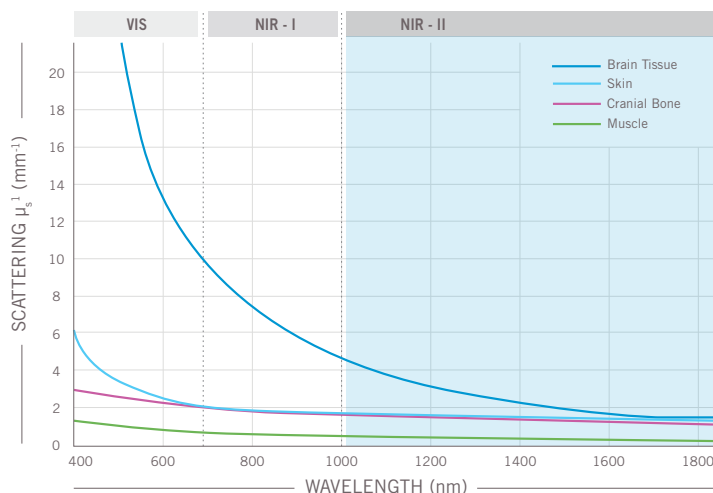
Type	InGaAs (ZephIR 1.7™)
FPA	640 x 512 pixels
Pixel Size	15 µm
QE	< 75% from 900 to 1600 nm
Dynamic Range	13 / 15 bits

ALLOWS SEEING BOTH **STRUCTURE** AND **FUNCTION** BY COMBINING :

- » Fast acquisition speed
- » Micron-scale spatial resolution
- » Centimeter-scale penetration depth
- » Multicolour imaging

EXAMPLES OF NIR-II IMAGING APPLICATIONS

- Visualize microvasculature
- Identify cancer tissue, guide real-time surgeries
- Monitor rug biodistribution & pharmacokinetics
- Monitor cell environment (pH, lipid, mRNA)
- Monitor heart & respiratory rates contact-free
- Monitor blood flow & metabolic imaging



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