MediLumine Vision without Sacrifice

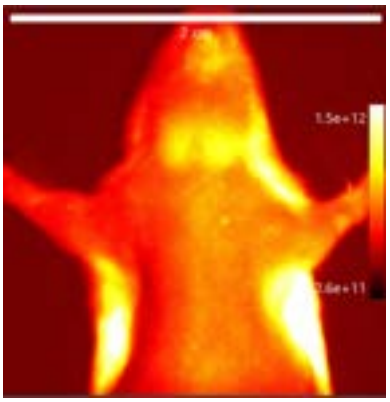
PRISM™ SWIR In Vivo Imaging System

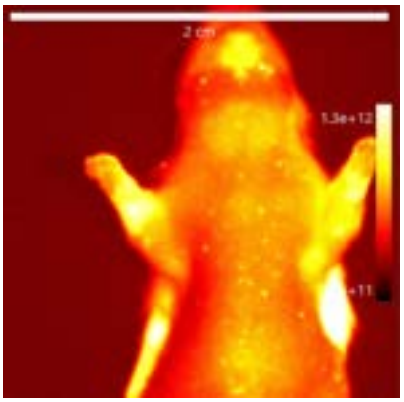
MediLumine's **PRISM™ SWIR In Vivo Imaging System** unlocks new possibilities in molecular imaging by revealing biomarkers with unparalleled clarity. Harnessing the power of reduced scattering and autofluorescence in the shortwave infrared, it delivers deeper tissue penetration, lower background, and sharper resolution than visible or NIR imaging. Researchers can track dye-conjugated biomarkers such as Cy5, Cy7.5, and IRDye800CW with precision.

With flexible excitation at up to four wavelengths, PRISM SWIR adapts to your research needs with its auto-laser and auto-exposure acquisition modes to ensure every experiment achieves optimal depth and contrast. From real-time biomarker tracking to advanced multiplexed imaging, PRISM SWIR empowers scientists with a powerful and user-friendly solution for preclinical research.

It is designed to support excitation multiplexing and single-channel detection of SWIR emissions from dyes excited across the NIR/SWIR spectrum, such as 670 nm, 785 nm, 890 nm, 980 nm, and 1076 nm.

In Vivo Imaging of Cy5-LPS

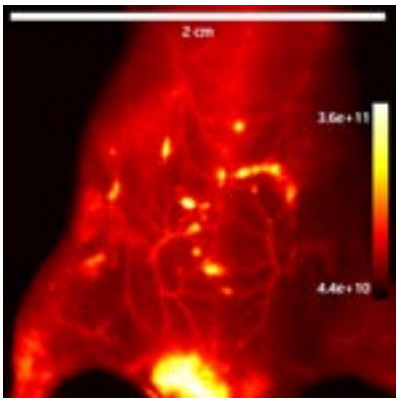




Left: Autofluorescence control, 2 hours after IP Saline injection
IAutofluorescence is confined to the salivary glands and jaw region, likely due to blood-related background, with no detectable signal in paws or digits.

Right: Cy5-LPS injection, 2 hours after IP injection of Cy5-LPS
Strong signal is detected in the highly perfused salivary glands and jaw region, as well as in digits and mammary fat pads, demonstrating the biodistribution of the labeled Cy 5 LPS .

In Vivo Imaging VT-1010



In Vivo Imaging of Vascular Tracker 1010
Image acquired after IV injection of pegylated AIE nanoparticle, excited using the PRISM™ SWIR 785 nm laser. In addition to detailed vascular structures, signal is evident in superficial skin lesions and clearance through the bladder, highlighting both biodistribution and excretion pathways.

Highly Customizable

The sensitivity of the PRISM™ imaging platform enables detection of distinct biodistribution features in vivo, providing researchers with a powerful tool to study biomarkers, vascular biology, tissue pathology, and clearance pathways in real time.

Unparalleled modularity and resolution (best cost effectiveness on the market)

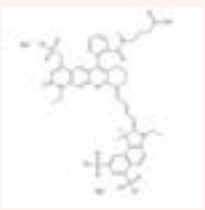
Up to four external illumination modules with up to 30 watts of illumination power in each module

Multimodal animal carrier for one to three mice, compatible with commercially available in vivo imaging systems

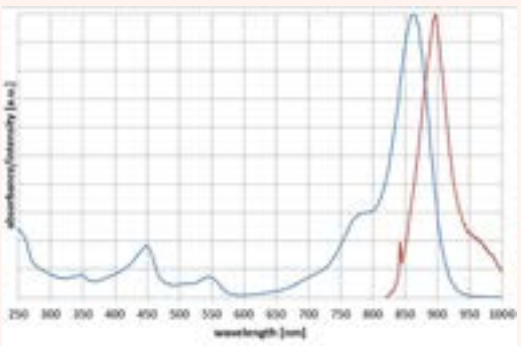
MediLumine's SWIR Contrast Agent Line

ICG micelles with long circulation in blood pool

Vascular Tracker 1010 for Vascular Imaging



DY 865 for Targeted Imaging of Biomarkers



DY-865 absorption max is at 865 nm and emission max is 896 nm with long tail of emissions in SWIR. The dye is water soluble and available with carboxylic acid, NHS-ester, amino-derivative, maleimide, and azide modifications.

Specifications

- PYRAMID acquisition software with real time visualization
- Variable FOV via motorized zoom : 2 .5 cm to 10 cm
- Video rate imaging at 60 frames per second
- Temperature control between 20 to 40 °C to keep animal within physiological conditions
- Integrated filter holders for 1" round filters on excitation or illumination LED with user defined wavelength for reflectance imaging
- Linear polarizer for reflectance imaging of lymph nodes and other structures
- Compatability with other in vivo imaging systems via multimodal animal carrier
- Anesthesia masks for imaging up to three mice
- Co-registration of optical image fluorescence image with LED light reflectance image
- Table top size (24 by 24 by 36 inches)

Illumination specs

- Up to four single illumination modules with the following 670 nm, 760 nm, 785 nm, 808 nm, 890 nm, 915 nm, 940 nm, 975 nm, 1064 nm, 1470 nm, 1940 nm
- Up to 30 Watt illumination power
- Integrated filter holders for emission filters
- Interleaving illumination at up to four different wavelengths

Camera specs

- 640*512 pixels
- Pixel pitch: 15µm
- Quantum efficiency > 80% (peak)
- Integrated filter holder for 1" round emission filters at 1000 nm, 1300 nm and 1500 nm
- Detection from 900 to 1700 nm
- Exposure time from 10µs to 112 sec
- Dark current value <2000 e-/pixels/s @ -15°C

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