

Bioluminescent and Fluorescent Imaging System for Small Animal Research

Specifications

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Non-invasive optical imaging system that allows the user to image targets inside live animals. The instrument shall image in both 2 and 3 dimensions using a cooled CCD camera with very high sensitivity. Using bioluminescent or fluorescent reporters, individual cells, tissues, organs, and tumors shall be visualized internally without operating on or terminating the animal. The system shall include the imaging device, a high-performance acquisition computer with software, and a rodent anesthesia system. The system shall be capable of distinguishing multiple bioluminescent and fluorescent reporters.

- Animal Capacity: 5 mice (10 mice with manifold upgrade)
- 2D bioluminescence/chemiluminescence
- Cerenkov Imaging
- Epi-illumination
- Full spectral tunability
- CPS spectral unmixing
- Trans-illumination
- 3D bioluminescence tomography
- 3D fluorescence tomography
- 3D multimodal co-registration (PET, CT, MRI)
- Quantification p/sec/cm²/str
- NIST traceable absolute calibration
- Detector type: 1" back-thinned, back-illuminated Grade 1 CCD
- Camera Temperature: (-90C)
- CCD size: 2.7cm x 2.7cm
- CCD pixel size: 13.5um
- Optical field of view: 4 – 22.5cm
- Optical resolution: 20 microns
- Imaging pixels: 2048 x 2048
- Wavelength range: 415 – 850nm
- Number of emission filters/bandwidth: 18/20nm
- Emission filters (nm): 500, 520, 540, 560, 580, 600, 620, 640, 660, 680, 700, 720, 740, 760, 780, 800, 820, 840
- Number of excitation filters/bandwidth: 10/30nm
- Excitation filters: 430, 465, 500, 535, 570, 605, 640, 675, 710, 745
- Excitation light source: extended NIR Range 150W Tungsten EKE
- Heater chamber: 20 – 40C
- Gas anesthesia inlet and outlet ports
- Class I laser product