BLT
PHOTON TECHNOLOGY

AniView 100

Multi-mode In Vivo Animal Imaging System

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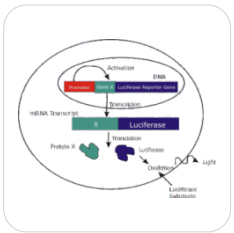
Multi-mode In Vivo Animal Imaging System

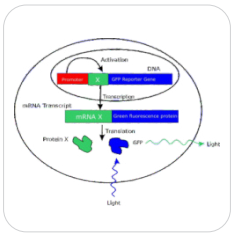
Provide you with a more efficient in vivo imaging platform and the best imaging results

With the continuous in-depth study of life sciences and biological models by scientists, the exploration of new treatment methods for human diseases has been accelerated. Scientists are eager for new methods to study targets, signal pathways, and metabolic processes in living animals. Therefore, in vivo molecular imaging came into being and developed rapidly. In vivo optical imaging, as the most important branch, is gradually being known by scientists at home and abroad, and it is widely used in living animals to observe the changes of molecular levels in the body in real time. This powerful technology platform allows researchers to perform experiments more quickly and efficiently, and at the same time shortens the experimental cycle of animal experiments. This is the latest research method used to study disease mechanisms and explore new treatment approaches.

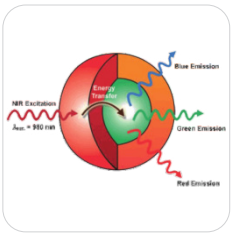
In vivo imaging modes:



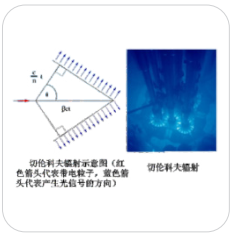
Bioluminescence



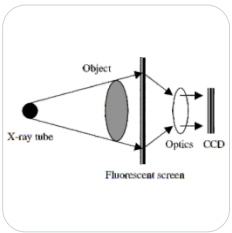
Fluorescence



Upconversion Fluorescence



Cherenkov Optical



X-Ray

Features

High Sensitive

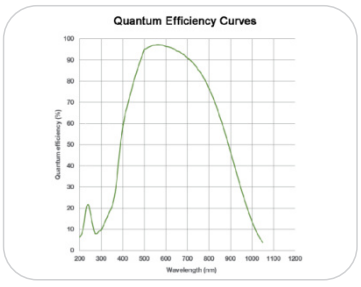
- The instrument uses ultra-high quantum efficiency, deep cooling back-illuminated research-grade CCD camera, cooling temperature down to absolute -100 °C, with a powerful capture capability for weak signals.

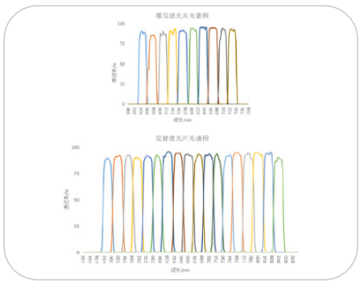
Multiple Filters

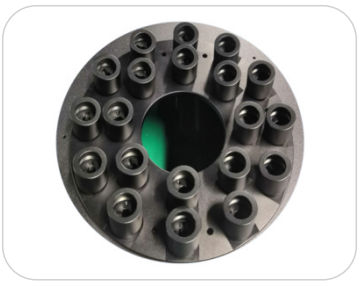
- The instrument is equipped with 10 kinds of LED light sources, 10 emission filters, ultra-narrow bandwidth can achieve fluorescence imaging in the range of 500nm to 840nm, compatible with a wider variety of fluorescent dyes.

Uniformity

- The global light source of the instrument adopts a shadowless symmetric light source arrangement, which can output uniformly distributed excitation light, together with the fluorescence correction algorithm conforming to the AMST standard, so that the excitation energy irradiated on the sample remains consistent, avoiding the result error caused by uneven off illumination.







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Extremely Efficiency

- All use high power LED as the excitation light source, compared to halogen lamps, LED has a longer life, higher efficiency, less attenuation, etc., so that fluorescence excitation more efficient, while reducing the results of errors caused by factors such as light source attenuation.

Intelligent

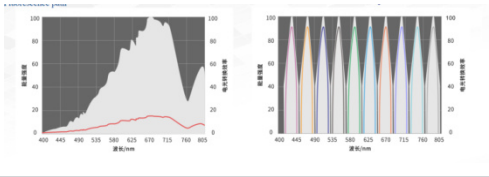
- The photograph and analysis software with fully independent intellectual property rights is more in line with the habits of bilingual users, and the process-oriented operation scheme can greatly reduce learning costs.
- The software automatically adjusts hardware parameters such as imaging field of view, carrier table temperature, and light source intensity to make imaging easier."

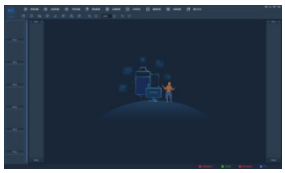
High Accuracy

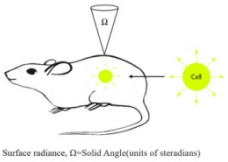
- The imaging system does not only need imaging devices, but also data analysis. AniView software has self-developed data analysis algorithm model to quantitatively analyze the number of photons ($p/s/cm^2/sr$) radiated per unit time, unit area, and unit arc angle on the animal's body surface, and the data results are more accurate.

More Powerful

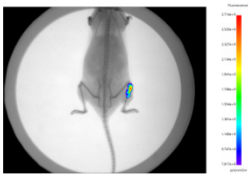
- The product is more powerful, in addition to bioluminescence imaging, fluorescence imaging and other basic optical imaging methods, but also has the ability to carry out Cherenkov optical imaging, X-ray imaging, upconversion fluorescence imaging and other functions, according to the experimental needs, select the corresponding functional modules to truly achieve multi-mode imaging.



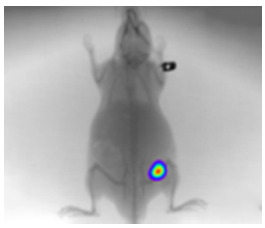




Surface radiance, Ω=Solid Angle(units of steradians)



Optional Modules

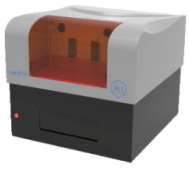


X-ray Imaging Module

X-ray module can be used in the field of bone tissue, tumor bone metastasis and other research.

Gas Anesthesia Systems

Anesthesia of in vivo small animals in real-time experiments.



Cell Marker Luminescence Detector

For the screening and identification of luciferase labeled cell lines, their accurate quantification, and the output of date.

Small Animal Imaging Isolation Box

Small Animal Imaging Isolation Box.

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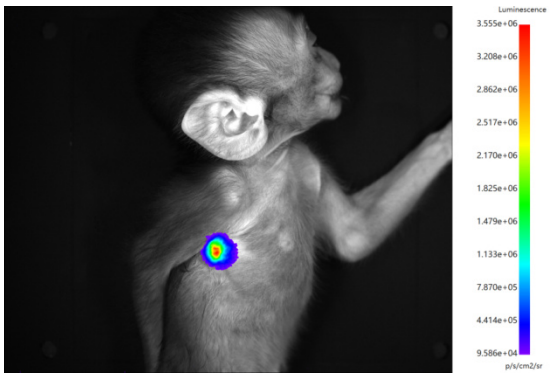
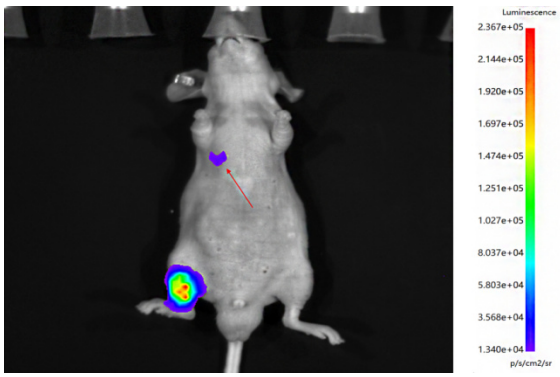
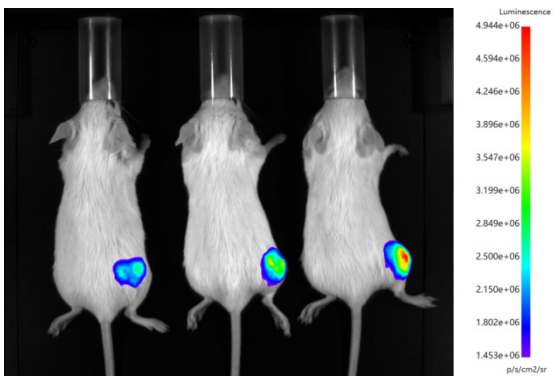
▼ Oncology Research



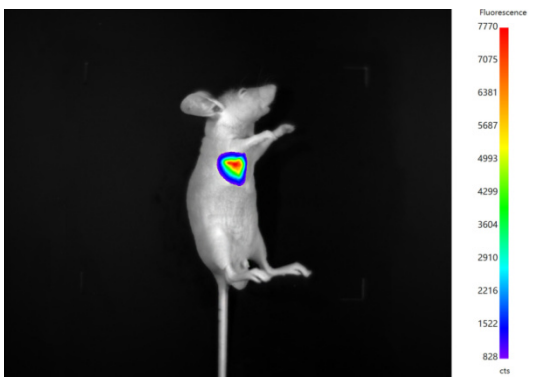
Liver cancer cells (Luc)



Osteosarcoma cell (Luc) lung metastasis

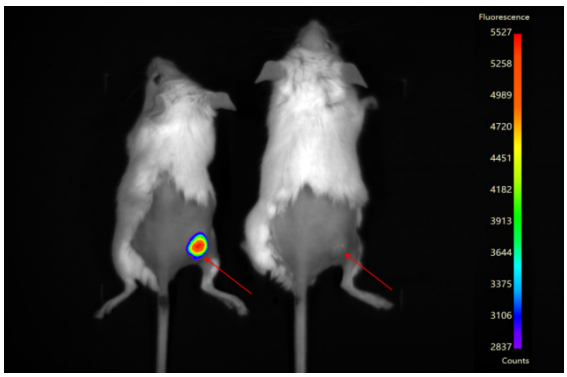


Tumor targeting (Ce6)

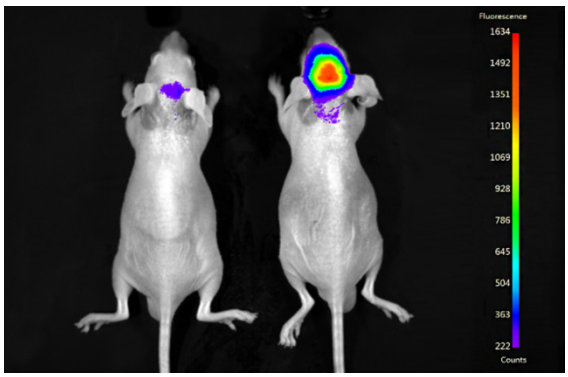


Glioma in situ targeting (cy5.5)

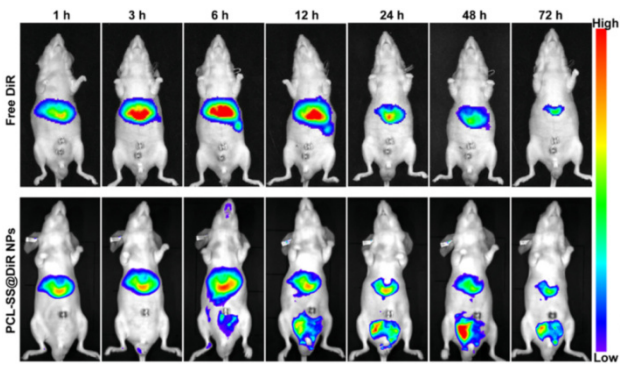
▼ Nano drug-loaded particles

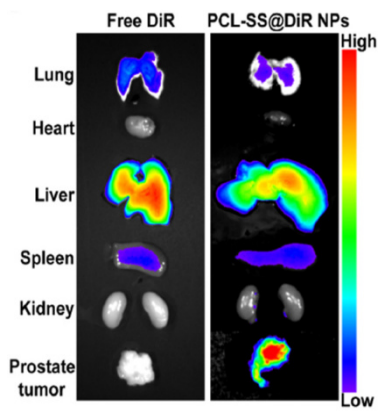


Subcutaneous transfer of mouse breast cancer cells (Luc)



Liver Cancer (DiR)





Treatment of prostate cancer (DiR)

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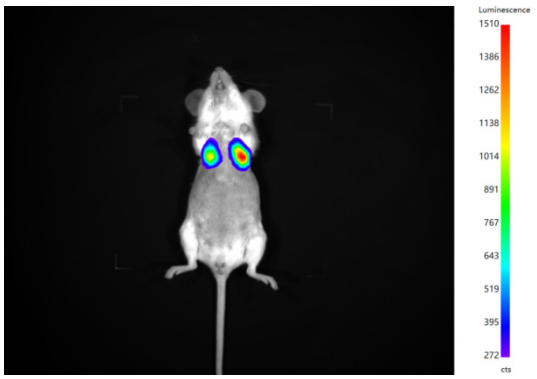
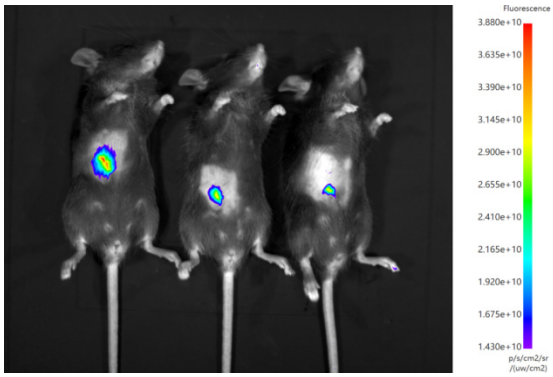
▼ Stem Cell

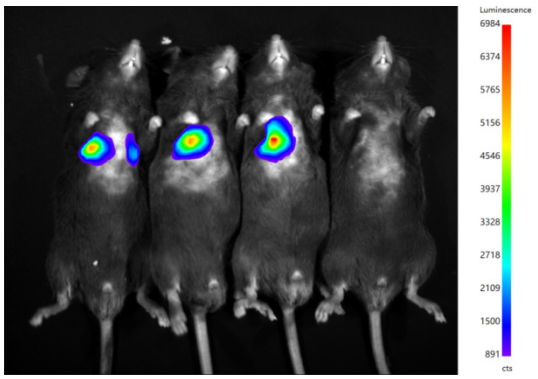


Liver cancer cells(Luc)

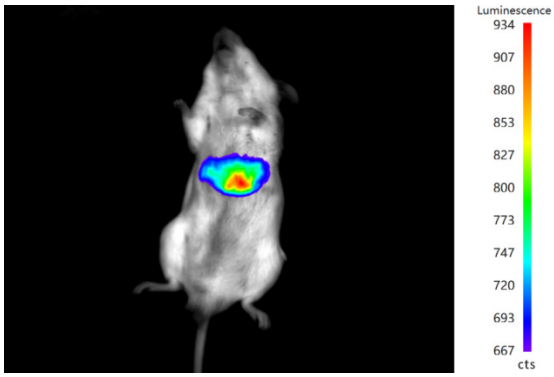


Liver cancer cells(Luc)

▼ Virus Infection Model

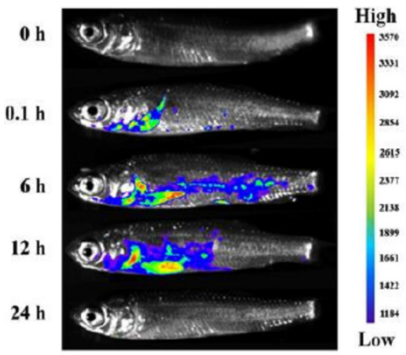


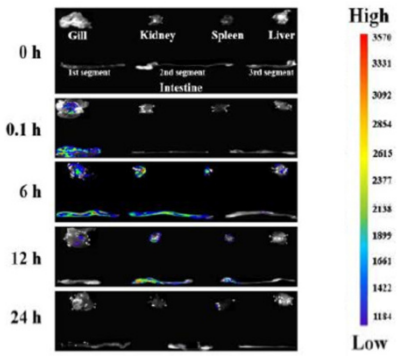
Liver cancer cells(Luc)



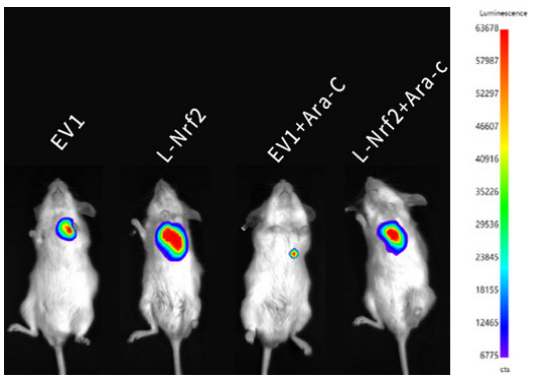
Liver cancer cells(Luc)

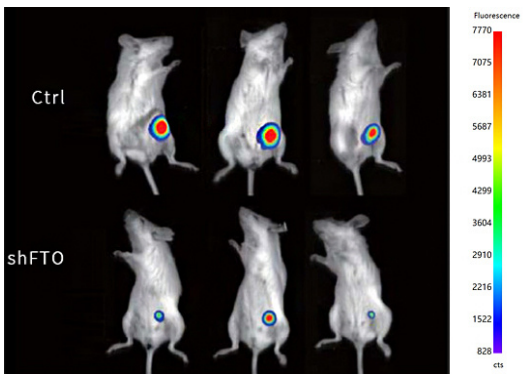
▼ Vaccine Development





▼ Gene expression regulation





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AniView Software

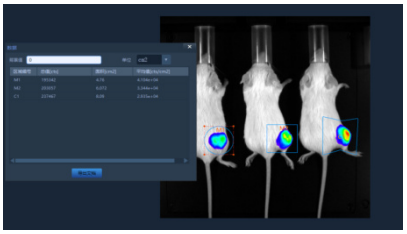
Software interface is simple and powerful.
It helps you get results quickly with one click and improves work efficiency.

ProbeLibrary

The probe library contains data on the optimal excitation and emission wavelengths for hundreds of commonly used probes, and the software will recommend the most suitable filters.

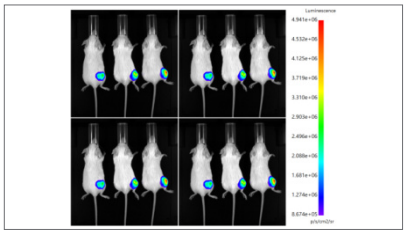
Quantitative Analysis

The software has a variety of quantitative analysis methods. Manual analysis, with rectangular, circular, custom and other ROI circle selection mode; automatic analysis, according to the threshold value automatically circle RoI.



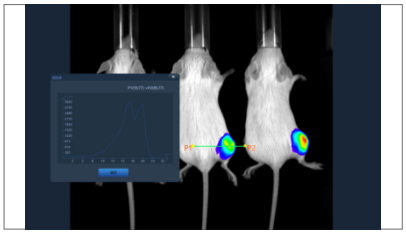
Multi-image Processing

Powerful multi-picture analysis function can analyze and export multiple pictures at the same time with one click, ensuring consistent analysis conditions for longitudinal experimental results.



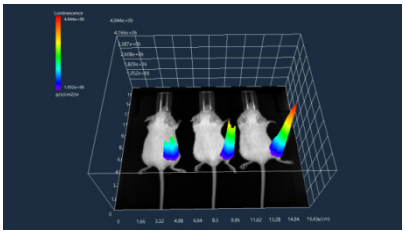
Auto-assessment

This function allows light intensity comparison of surface lines and automatic analysis of intensity trends in the area of your interest.



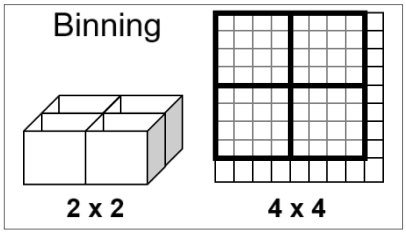
Stereoscopic View of Date

The images are displayed with 3D peaks, enabling stereoscopic data.



Binning

Our binning function is higher and larger, which is suitable for low signal detection experiments and can effectively improve the detection sensitivity.

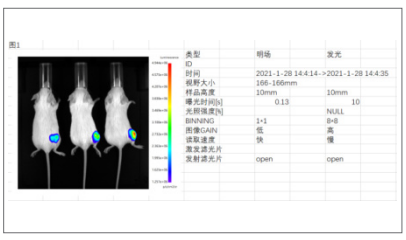


Automatic storage

Photo mode and parameters can be quickly converted and set, and data can be stored instantly without cumbersome storage operations, without worrying about data loss.

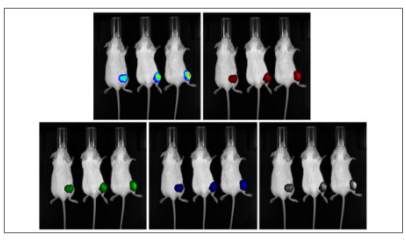
Batch Processing

Batch import/export data functions, export methods such as export pictures, raw data and excel tables, etc., can export the current picture, but also can customize multiple exports, data processing more convenient.



Multiple Displays

The software has a variety of fluorescence intensity expressions, and can be freely switched between multiple units and pseudo-colors.



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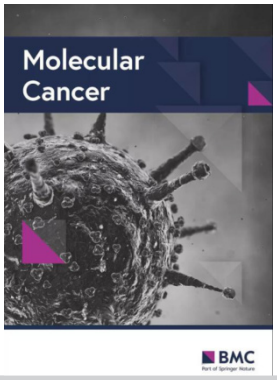
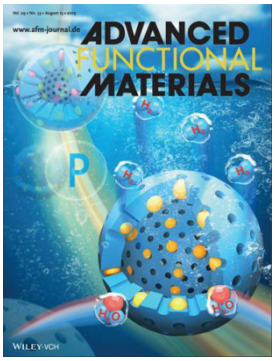
Literature (Part)

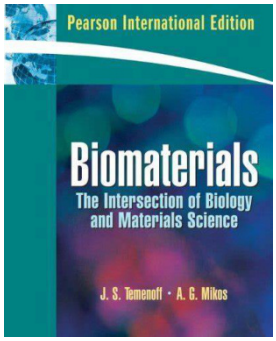


《Molecular Cancer》

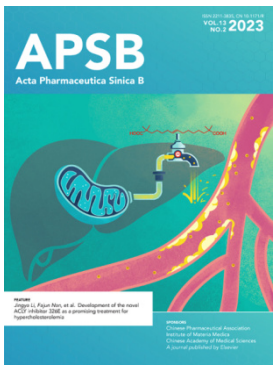


《ADVANCED FUNCTIONAL MATERIALS》

《ADVANCED SCIENCE》

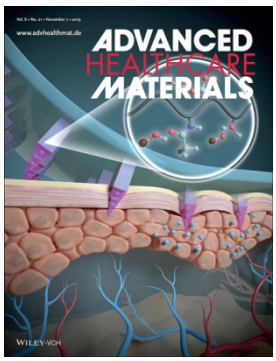


《Biomaterials》

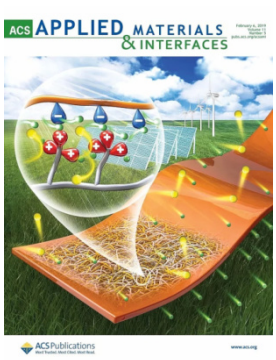


《Acta Pharmaceutica Sinica B》

《journal of controlled release》



《ADVANCED HEALTHCARE MATERIALS》



《ACS Applied Materials & Interfaces》

User Unit (part)

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中国农科院深圳农业基因组研究所　湖南省实验动物中心　国科赛赋(深圳)新药研发科技有限公司　赛业(广州)生物科技有限公司　上海吉玛制药技术有限公司　石药集团　正大天晴药业集团股份有限公司　士泽生物医药(苏州)有限公司　湖南斯莱克景达实验动物有限公司　中美瑞康核酸技术(南通)研究院

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Camera

Camera	Back-Illuminated cooling CCD camera
Cooling Temperature	Down to -100 °C/212°F (absolute temperature)
Resolution	1024 x 1024
Pixel Size	13μm x 13μm
Spectral range	300 nm - 1050 nm
Quantum Efficiency	> 95% @ 520nm - 630nm, > 80% @ 460nm - 780nm
Lens	F0.95 or F0.8 (optional), autofocus
Dark Current	0.0001e^-/pixel/s(typical)
Read Noise	2.9 e^- @50KHz
Imaging Field Of View	255mmx255mm, It can image 5 mice at the same time

Specifications

Light Source	Narrow bandwidth LED light source, life time > 50000 hours
Filters	Light transmittance ≥ 95%, cut-off depth:OD7
Excitation Filter	Standard sets: Two filters per set, 430/465/500/535/570/605/640/675/710/745nm, Bandwidth 30nm
Emission Filter	Standard: 500nm/520nm/540nm/560nm/580nm/600nm/620nm/640nm/660nm/680nm 700nm/720nm/740nm/760nm/780nm/800nm/820nm/840nm, Bandwidth 20nm
Cell marker luminescence detector	Detector: Ultra-sensitive PMT Sensitivity: ≤10 amol ATP or ≤20 zmol luciferase Dynamic range: ≥7
Carrier Table	Z-axis automatic lift, 20°C~40°C adjustable
Size	1100 mm×520 mm×546mm (H× W×D)
Weight	75kg

Optional Module

Gas Anesthesia Systems	Gas output: 0-1L/min; Oxygen output concentration: 0-5% adjustable Applicable anesthetics: Isoflurane
X-ray Imaging Module	Safety standards in line with CE certification; anode voltage: 20-80kv; anode current: 0.2-0.7mA; focus size: X-ray imaging module 30-50um; equipped with rare-earth sensitization screen; equipped with X-ray special filters
High-throughput Cell Marker Identification Module	Semiconductor-cooled PMT (20°C constant temperature) Equipped with 2 in-situ autosampler accuracy ⩾ 98% 10-100μl, recyclable, inter-porous interference: :⩽$1.0E^{-5}$
Upconversion Fluorescence Module	Excitation wavelength: 808nm or 980nm (optional); center wavelength: 5nm; LCD panel display, power continuously adjustable, support pulse work, TEC temperature control, power-on timing function, remote control function, over-temperature protection and other functions, including supporting focus lens

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