VISQUE

POWER   CONNECTION   DOOR   ACQUISITION

VISQUE
InVivo Smart

vieworks

VISQUE
InVivo Smart

VISQUE™ InVivo Smart is a preclinical *in vivo* fluorescent imaging and analysis system.

1

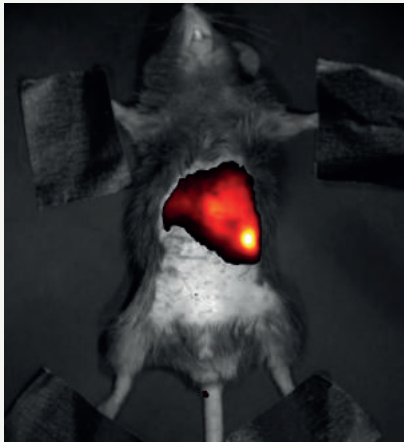High-sensitivity
fluorescence imaging
acquisition

2

Intelligent *in vivo*
imaging viewer and
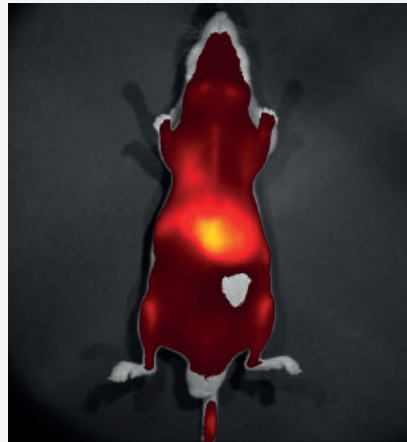kinetic analysis
program: CleVue™

3

Sophisticated design
for enhancing the
usability

1 High-sensitivity
fluorescence imaging acquisition

C57BL/6 mouse image taken 1 hour after NIR fluorescent dye injection through the tail vein

Nude mouse image taken 2 days after Exosome–NIR dye complex injection through the tail vein

Scientific CMOS Camera
- Optimized solution for high–end scientific applications
- Min. image pixel size: 20um (@x7.5)

High–sensitivity imaging sensor
- Quantum Efficiency: 72% at 595nm
- Dynamic Range: 87dB
- Dark Current: <10 e–/s/pix @ 30 OC

Fast–speed imaging acquisition (Max. 30fps)
- Uniformed–quality image with high–speed image acquisition

② Intelligent *in vivo* imaging viewer and kinetic analysis program: CleVue™

CleVue UI for Analysis of the Time-lapse images

Time-lapse imaging and analysis software designed exclusively for the VISQUE InVivo Series

• Supporting more than 10 analytic algorithms for Pharma-cokinetics and Biodistribution by using the real-time image acquisition

Fast and convenient analysis tools

• One-click analysis: automatic display of fluorescence level, ROI analysis units, etc.
• The display and analysis of four-different images in one screen
• Report mode: Raw image, ROI, the acquisition setup information, the range of Pseudocolor bar, comments, etc.

Convenient post-image analysis and edition tools

• *.cif analysis file output

3 Sophisticated design
for enhancing the usability

User-friendly product design

Simple-use design available to manipulate the small animals to acquire the fast-moving fluorescent imaging in the body

- Open part of stage door
- Sliding stage and stage location marker
- Foot switch

Easy adjustment of lens (zoom, focus, and iris)

- Real-time adjustment of lens by using side levers
- Zoom: x1 — x7.5

Compact design

- Lightweight design of 15kg (possible to hand-carry)
- Exterior LED display: Power, door status, shooting mode

Technical Specifications

System	
Dimension	40 cm x 40 cm x 57 cm
Weight	15 kg
Operating Temperature	10℃ to 27℃
Power	100 − 240 V, max. 0.5 A at 250VAC

Camera	
Sensor	scientific CMOS
Resolution (H x V)	1024 x 1024
Pixel Size	6.5 μm
Min. Image Pixel Resolution	20 μm (x7.5)
Digital Output	14 bit
Maximum Frame Rate	30 fps
Exposure Time	0.013s to 3s
Detection Spectral Range	500 nm − 860 nm
Interface	USB 3.0

Lens	
Control	Zoom / Iris / Focus
Zoom (Field of View, H x V)	15 cm x 15 cm (x1) ~ 2 cm x 2 cm (x7.5)

Software, CleVue™	
Exclusive File Format	*.CIF (CleVue Image File) Saves all information of an image such as a raw image, analyzed image, ROI information, acquisition information, comments etc.
Supported Image File Format	TIFF / Bitmap / JPEG / PNG
Image Merging	Merges images of multi−fluorescent dyes
Removal of Autofluorescence	Removes autofluorescence or reflection from fluorescent images
Report Mode	Displays an analyzed image with color scale bar, analyzed data, acquisition info, comments etc.
Kinetics Analysis	• Includes 10 kinds of algorithms, i.e. MTT, BFI, and patented other algorithms to analyze Kinetics • Dynamics graph, i.e. a plot of pixel intensity over time • Map with Kinetics values on an image

Excitation Light	
Source	LED
White Light	epi white LED

Emission Filters	
Filter Selection	Automated Control
Emission Filters	1 included, 8 optional

| Representative Detectable Fluorophores			
Imaging − Mode	Imaging − Light	Excitation / Emission	Fluorescent Dyes
GFP	Blue	Ex : 390nm − 490nm Em : 500nm − 550nm	GFP / EGFP / Alexa 448 / FITC / QD 525
PE	Green	Ex : 530nm − 570 nm Em : 575nm − 640 nm	RFP / DsRed / PE / Alexa 568 / TRITC / QD 585 / QD 605 / QD 625
Cy5.5	Red	Ex : 620nm − 650nm Em : 690nm − 740nm	Cy5.5 / PKE680 / Alexa 680 / Alexa 700 / QD 705
	HyperRed	Ex : 630nm − 680nm Em : 690nm − 740nm	
IGC	NIR	Ex : 740nm − 790nm Em : 810nm − 860nm	ICG / QD 800

* Specifications are subject to change without prior notice.

Applications

In vivo Fluorescence Imaging

- Imaging solid tumors & tracking metastatic tumors
- Assessment of cardiovascular and/or Lymphatic structure and functions
- Evaluating the therapeutic efficacy of new drugs against cancer, arthritis, atherosclerosis, autoimmune disorders or angiogenesis etc.
- Analysis of the pharmacokinetics of new drugs

Pharmacokinetics study of exosomes labeled with NIR fluorescent dyes

| 0 hr | 1 hr | 6 hr | 1 day | 2 day |
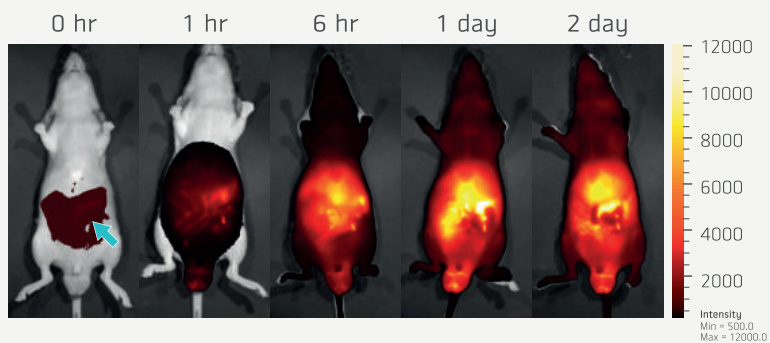
- 0 hr: Taken immediately after IP injection of the Exosome-ICG complex.
- The Blue Arrow indicates the injection spot.

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