Ultimate In Vivo Imaging and Automatic DXA Analysis for Longitudinal Studies

iNSiGHT is a fully shielded DXA cabinet body composition analyzer for lab animals. It offers fast scan, high resolution image, multiple ROIs with cone beam HFG and flat panel detector for ultimate precision and accuracy.

X-ray Image by iNSiGHT

Technical Specifications

X-ray System	DXA(Dual Energy X-ray Absorptiometry)
Scan Method	Cone Beam
Scan Object	Small Animal(10~500g)
Scan Time	25sec.(10sec. for X-ray exposure)
Measurement Parameter	BMD(g/cm²) , BMC(g), Bone Area(cm²), Tissue Area(cm²), Fat(%), Fat(g), Lean(g), Total Weight(g)
Precision	CV<1%
Accuracy	R^2<0.9
Image area	16.5cm x 25.5cm @1.2X
Pixel size	100μm @1.2X(DXA Mode) 31μm @4X
Operating System	Windows 10 64bit(recommended)
Dimension(W x D x H)	66cm x 60.5cm x 113cm
Weight	160kg

OsteoSys

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VET DXA
iNSiGHT

Original DXA Technology
DR Image
Fast Scan : 25sec.
Accuracy : R^2>0.9
Precision : CV<1%
Simple Operation
Customized Feedback

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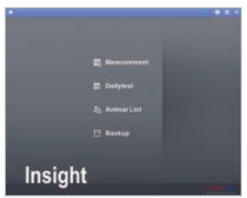
Longitudinal Measurement In Vivo

01

iNSiGHT is the perfect solution for longitudinal research. It offers FAT, LEAN and, BONE measurement in vivo keeping the integrity of the animal. Due to its fast scan time (25 sec. total scan, 10 sec. X-ray exposure), a simple treatment for anesthesia without any sacrifice of animal is the only prerequisite for measurements.

Measurement Window for each ROI
By combining the merit of NMR (High Precision), DXA (In Vivo Body Composition Follow Up) and DR (High Resolution Image), iNSiGHT pioneers the field of animal body composition analysis with delicate customization and spontaneous co-work with researchers.



Main User Interface

History Analysis for Each ROI

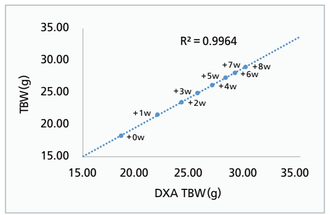
Precision and Accuracy

02

iNSiGHT is proven with its high precision (CV < 1%) and accuracy (R^2 > 0.9) as superb as those of NMR and micro CT. The precision, accuracy and capability of detecting changes for the measurements of total-body weight, fat weight, and lean weight in an 8-week follow-up study of rats was proved by a clinical trial.

On the 8th week, the accuracy was validated by comparing the total body weight measured by iNSiGHT (DXT TBW) with the weight by electronic scale (TBW).
The precision was verified by the coefficients of variation (CV) of repeated analysis for rats' Total Body Weight (TBW), Total Body Fat Weight (TBFW) and Total Body Lean Weight (TBLW) measured by iNSiGHT without repositioning of the animals.

Genuine In Vivo Longitudinal Investigation



Accuracy : R^2 > 0.9

Contents	CV(%)*
DXA TBW (g)	0.02 ± 0.01 (0.01 - 0.04)
DXA TBFW (g)	0.01 ± 0.05 (0.03 - 0.18)
DXA TBLW (g)	0.03 ± 0.02 (0.01 - 0.06)

* Mean ± SD (Min - Max)

Precision : CV < 1%

In Vivo Imaging

03

iNSiGHT presents an ultimate DXA image with high resolution of 100μm. DR image and Color Mapping for lean and fat distribution is optimized for visual analysis and assessment. As pivotal tools enabling a genuine longitudinal study, iNSiGHT is equipped with Multiple ROI setting and the History Analysis. Transparent window and wide imaging area of 16.5cm x 25.5cm secure measuring environment and process for in vivo imaging and DXA analysis. Magnification shelf supports high-end imaging analysis up to 4X geometric magnification.

In Vivo Imaging by Flat Panel Detector

Color Mapping for Fat / Lean Visualization

Bone-Enhanced Image