Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922) 49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Ижевск (3412)26-03-58
Иваново (4932)77-34-06
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Ноябрьск (3496)41-32-12
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Саранск (8342)22-96-24
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сыктывкар (8212)25-95-17
Сургут (3462)77-98-35
Тамбов (4752)50-40-97
Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Улан-Удэ (3012)59-97-51
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47
Россия (495)268-04-70
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# Система рентгеновской визуализации INSiGHT

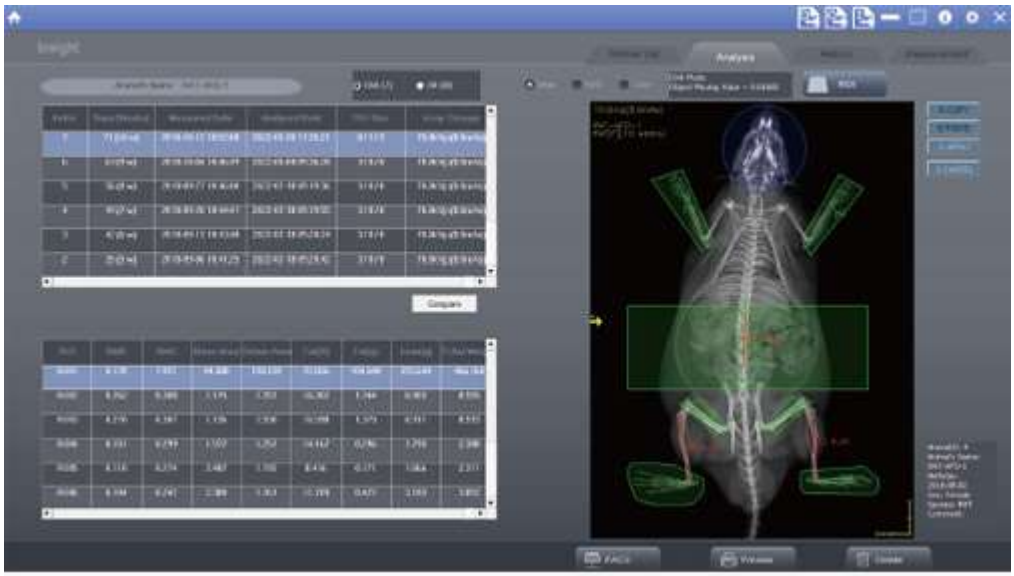
iNSiGHT is a fully shielded DXA cabinet body composition and BMD(Bone Mineral Densitometer) analyzer for lab animals. It offers fast scan, high resolution image, multiple ROIs with cone beam HFG and flat panel detector for ultimate precision an accuracy.

# Perfect Solution for Longitudinal Animal Research for Bone, Fat, and Lean

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.

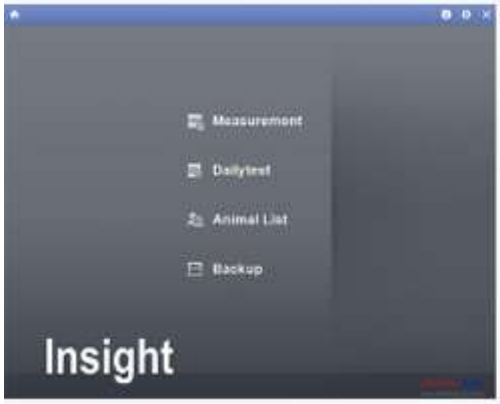
- ## Non-invasive DXA Scan less than 25 seconds

BMD and body composition are commonly reported measures for physiological monitoring. Invasive methods have traditionally been used to determine BMD and body composition, requiring post-mortem studies in small animals. For these purposes, destructive testing, mechanical tests, and ash measurements to reveal chemical composition have been applied. These methods are time consuming, destructive and require sacrificing the animal. Therefore, rapid, quantitative and non-invasive alternatives are desirable.
DXA based imaging device, iNSiGHT, measures BMD and assesses body composition of animal in vivo for a longitudinal investigation to monitor changes in whole body composition with growth and aging in animal. Using non-invasive measurement and analysis method, it is able for iNSiGHT to repeatedly scan cohorts of animal over long-term study.



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 eld of animal body composition analysis with delicate customization and spontaneous co-work with researchers.



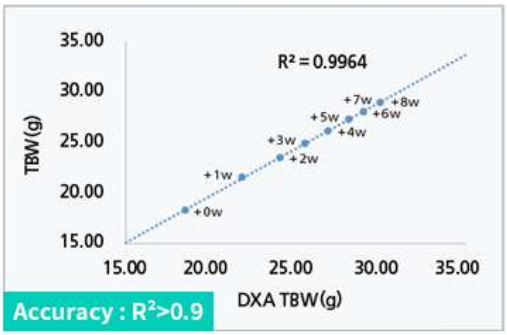

Main User Interface

History Analysis for Each ROI

- ## Proved Precision and Accuracy

iNSiGHT's 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 (Yeu et al. Laboratory Animal Research (2019) 35:2)

※ Genuine In Vivo Longitudinal Investigation




| 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) |

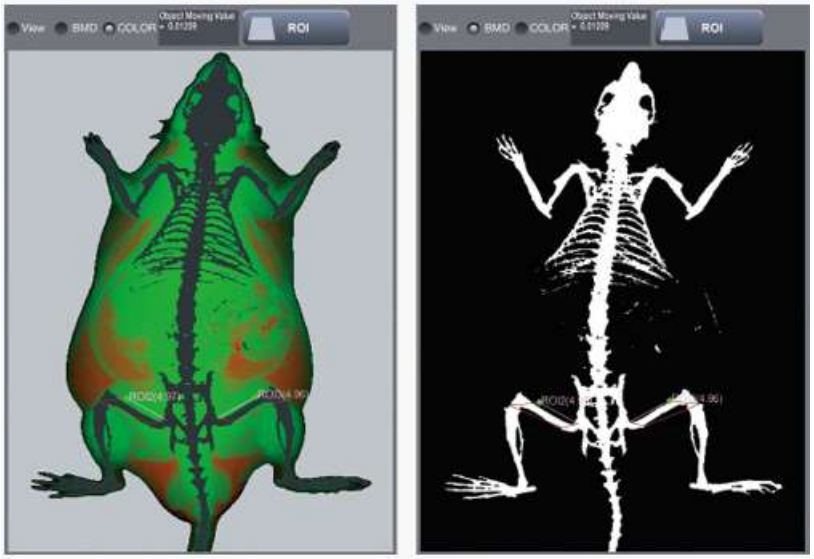
Precision : CV<1%

*Mean ±SD(Min - Max)

- ## DR Imaging by Flat Panel Detector and Color Mapping by DXA Analysis

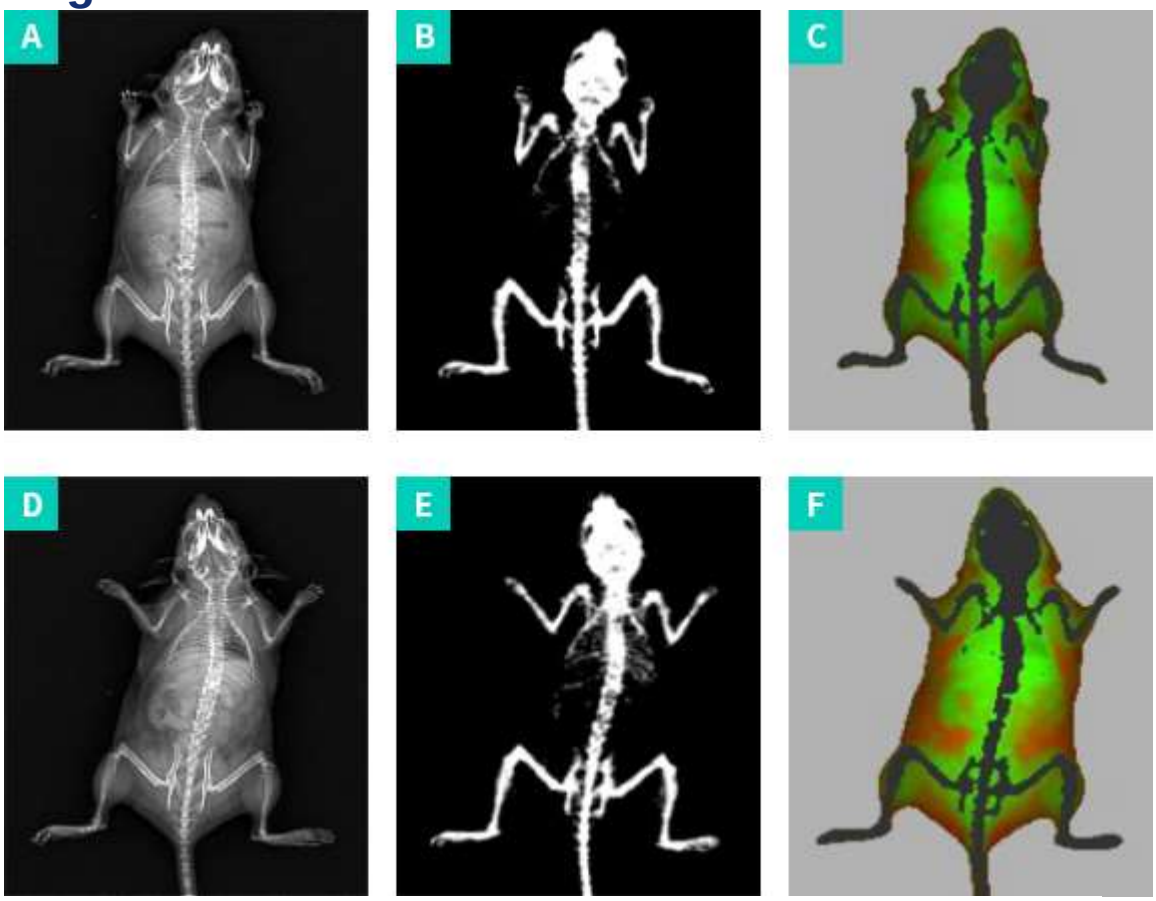
iNSiGHT presents an ultimate DXA image with high resolution of 100μm. DR image and Color Mapping for lean and fat distribution is optimized for visual analysis and assessment. As pivotal tools enabling a genuine longitudinal study, iNSiGHT is equipped with Multiple ROI setting and the History Analysis. Transparent window and wide imaging area of 16.5cmX25.5cm 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

# Ultimate In Vivo Imaging and Automatic DXA Analysis for Longitudinal Studies

- 


Sample images of two diet groups. Above is a sample of the Normal Diet(ND) group, and below is a sample of the High Fat Diet(HFD) group.A., B. and C. are X-ray image, bone enhanced image and color composition image of one mouse in ND group, respectively. D., E. and F. are X-ray images, bone enhanced images and color composition images of a mouse in the HFD group, respectively.In a color composition image, fat tissue is shown by red color and lean tissue by green color. From the color composition images of two diet groups, it is possible to tell that the HFD group has a relatively higher DXA Fat Tissue Mass(FTM) compared to the ND group.

-

- X-ray Image by iNSiGHT

## Specification

| | |
|---|---|
| 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)660mm × (D)605mm × (H)113mm |
| Weight | 160kg |

# Article

- Animal DXA for Lab: iNSiGHT

| | |
|---|---|
| Article | The protective effect of IL-12/23 neutralizing antibody in sarcopenia associated with dextran sulfate sodium-induced experimental colitis |
| Source | Journal: Cachexia, Sarcopenia and Muscle 2023 March 5; Wiley Online Library<br>Issued: 2023 |

- Animal DXA for Lab: iNSiGHT

| | |
|---|---|
| Article | Mitohormesis in Hypothalamic POMC Neurons Mediates Regular Exercise-Induced High-Turnover Metabolism |
| Source | Journal: Cell Metab. 2021 Feb 2;33(2):334-349.<br>Issued: 2021 |

- Animal DXA for Lab: iNSiGHT

| | |
|---|---|
| Article | Metabolic activities affect femur and lumbar vertebrae remodeling, and anti-resorptive risedronate disturbs femoral cortical bone remodeling |
| Source | Journal: Experimental & Molecular Medicine<br>Issued: 2021 |

- Animal DXA for Lab: iNSiGHT

| | |
|---|---|
| Article | Primary cilia mediate early life programming of adiposity through lysosomal regulation in the developing mouse hypothalamus |
| Source | Journal: NATURE COMMUNICATIONS \| (2020) 11:5772 \|<br>Issued: 2020 |

- Animal DXA for Lab: iNSiGHT

| | |
|---|---|
| Article | Hypoxic Exposure Increases Energy Expenditure by Increasing Carbohydrate Oxidation in Mice |
| Source | Journal: BioMed Research International, Volume 2020<br>Issued: 2020 |

- Animal DXA for Lab: iNSiGHT

| | |
|---|---|
| Article | Sanhuang Jiangtang tablet protects type 2 diabetes osteoporosis via AKT-GSK3β-NFATc1 signaling pathway by integrating bioinformatics analysis and experimental validation |
| Source | Journal: Journal of Ethnopharmacology<br>Issued Year: 2021 |

- Animal DXA for Lab: iNSiGHT

| | |
|---|---|
| Article | Mitophagy deficiency increases NLRP3 to induce brown fat dysfunction in mice |
| Source | Journal: Autophagy<br>Issued Year: 2020<br>Source: DOI: 10.1080/15548627.2020.1753002 |

- Animal DXA for Lab: iNSiGHT

| | |
|---|---|
| Article | Validation of Dual Energy X-Ray Absorptiometry and Nuclear Magnetic Resonance in the Analysis of Body Composition in Mice |
| Source | Journal: J Bone Metab 2020;27(4):291-299<br>Issued Year: 2020 |

- Animal DXA for Lab: iNSiGHT

| | |
|---|---|
| Article | Comparison btw DXA(iNSiGHT VET DXA) and NMR(EchoMRI) in Mouse body Composition Analysis |
| Source | TBD |

- Animal DXA for Lab: iNSiGHT

| | |
|---|---|
| Article | Evaluation of iNSiGHT VET DXA (Dual-Energy X-ray Absorptiometry) for assessing body composition in obese rats fed with high fat diet: a follow-up study of diet induced obesity model for 8 weeks |
| Source | Journal: Laboratory Animal Research (2019) 35:2<br>Issued Date: 24 June 2019<br>Source: http://doi.org//10.1186/s42826-019-0004-2 |