Pre-Clinical Imaging

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Southern Scientific

EXPERIENCE & EXPERTISE

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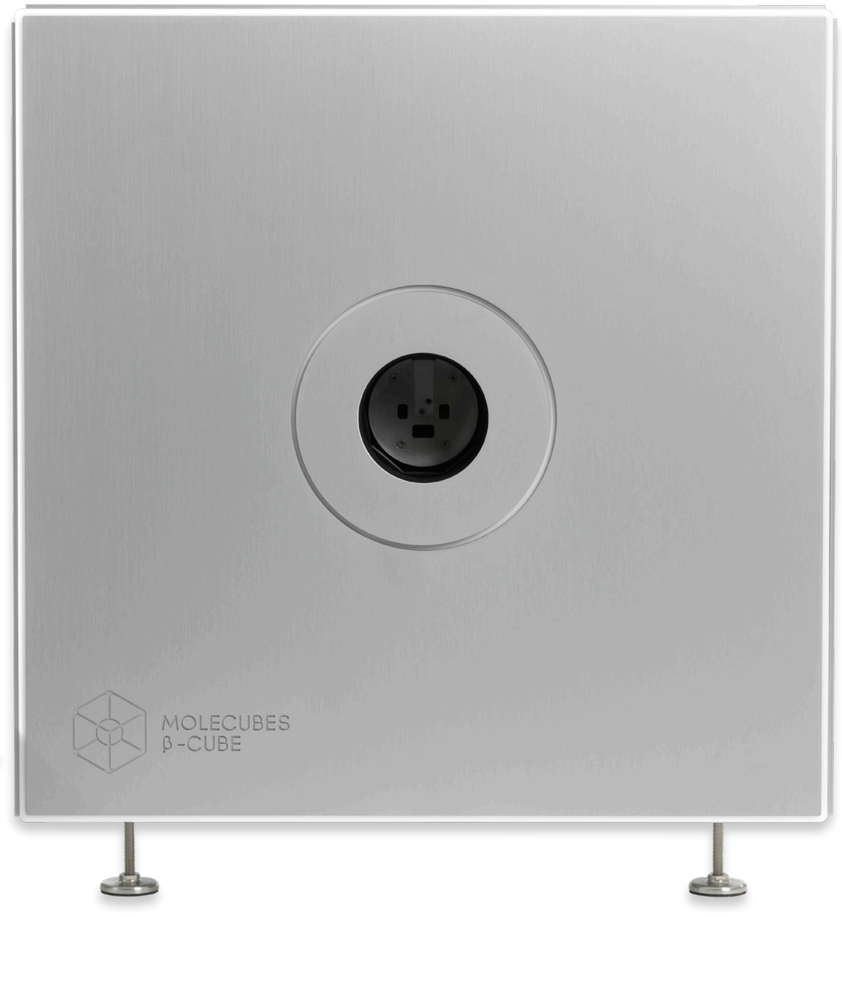
β-CUBE Pre-Clinical PET Imager

The β-CUBE is a high-performance pre-clinical PET imager to track and quantify molecular processes.

By labelling peptides, proteins, antibodies and many small molecules, with a radioisotope, virtually any molecular process can be imaged non-invasively and longitudinally with a PET imager.

With use of commercially available radiolabels, PET imaging enables you to look at, and quantify, in-vivo compound bio-distributions, drug ADME profiles, receptor binding, and much more.

Intuitive and wireless acquisition software combined with our multimodal small animal bed allow for easy and modular multimodal imaging along with the γ-CUBE (SPECT) and X-CUBE (CT).



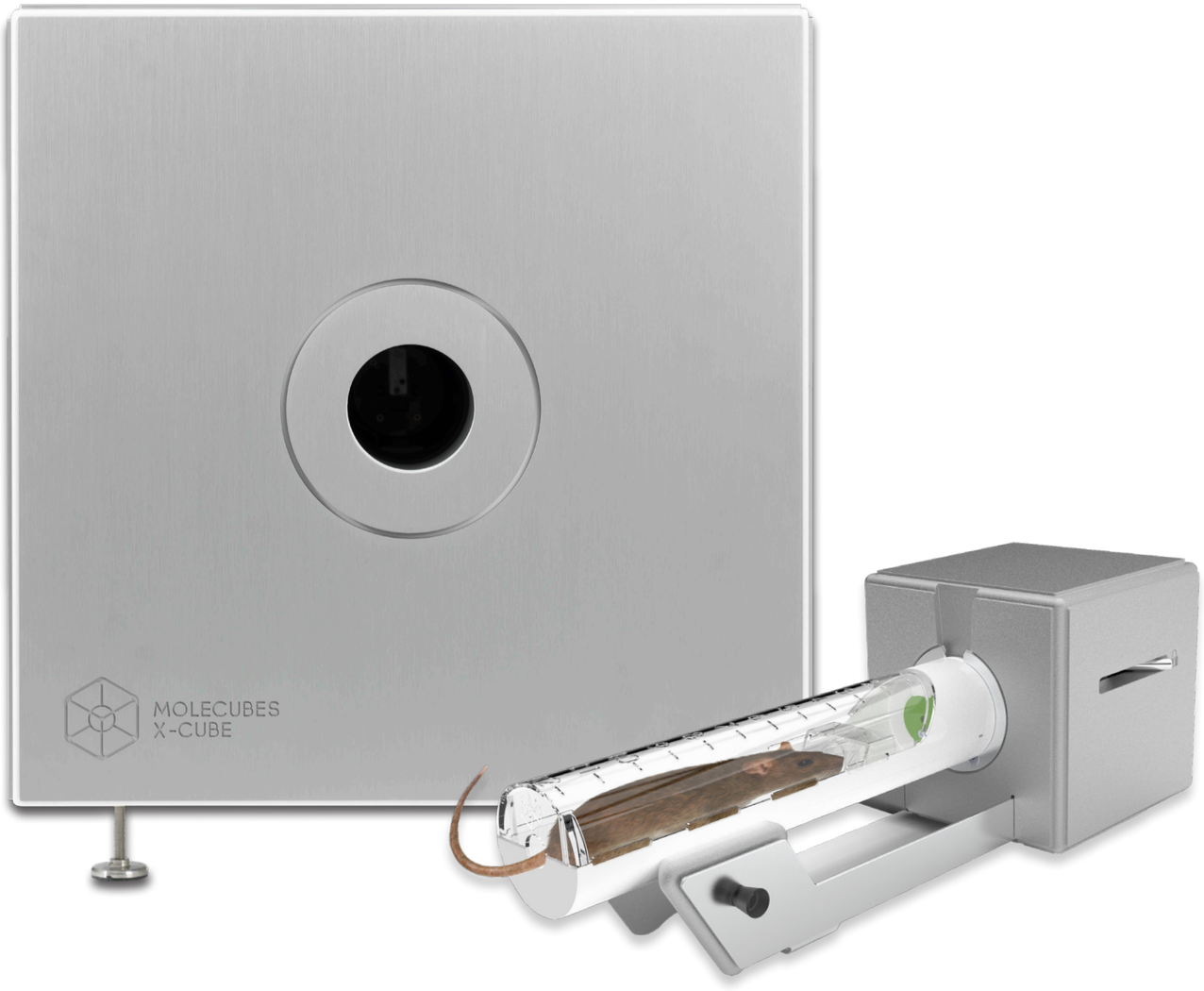
X-CUBE Pre-Clinical CT Imager

The X-CUBE is a high throughput pre-clinical CT imager enabling in-vivo tissue quantification.

The X-CUBE allows for fast whole body mouse and rat CT imaging at extremely low dose and excellent soft tissue contrast. Light weighted thanks to a self-shielded imaging unit it is a truly mobile in vivo scanner.

CT imaging enables a wide range of non-invasive and longitudinal tissue measurement applications in your preclinical models. These include orthotopic and subcutaneous tumour volume, tumour metastases volume, lung volume, heart ejection fractures and blood pool volume, and more.

Intuitive and wireless software combined with our multimodal small animal bed allow for easy and modular multimodal imaging along with the γ-CUBE (SPECT) and β -CUBE (PET).



Bruker MOLECUBES

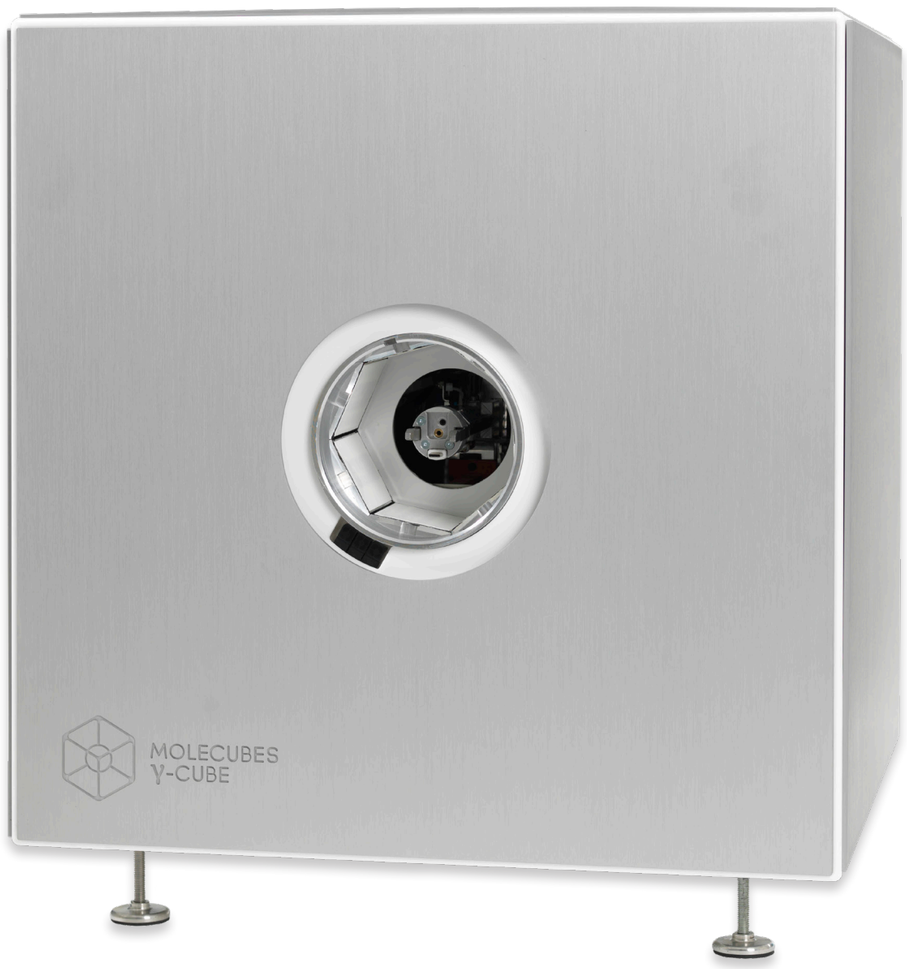
γ-CUBE Pre-Clinical SPECT Imager

The γ-CUBE is a high-performance pre-clinical SPECT imager to track and quantify molecular processes.

By labelling peptides, proteins, antibodies and many small molecules, with a radioisotope, virtually any molecular process can be imaged non-invasively and longitudinally with a SPECT imager.

SPECT compatible radioisotopes are typically useful for imaging longer biological half-life processes. Image and quantify the bio-distribution of mAbs and peptides, (stem) cell imaging, and more.

Intuitive and wireless acquisition software combined with our multimodal small animal bed allow for easy and modular multimodal imaging along with the X-CUBE (CT) and β -CUBE (PET).



Ami HT Optical Imaging System

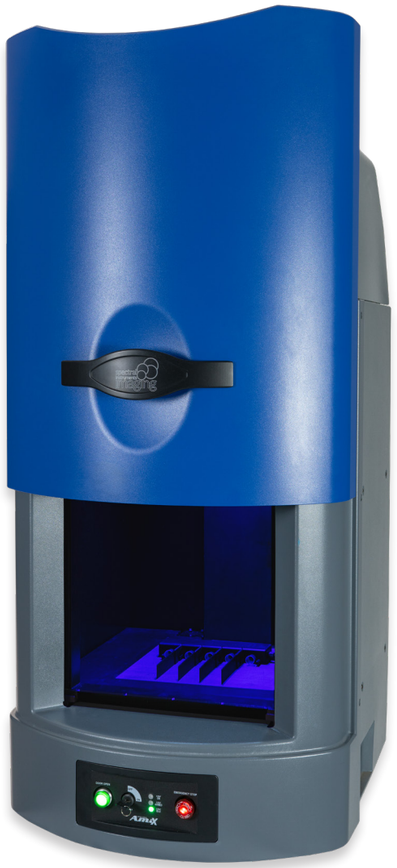
The Ami HT optical imaging system is a high throughput in vivo imaging suitable for specialist researchers and small teams.

- Patented LED-based illumination provides unprecedented power and previously unattained sensitivity for FLI and BLI.
- Native FOV of 25 cm x 17 cm, easily imaging 5 mice at a time.
- Field upgradeable for X-ray to the same spec as Ami HTX.
- Solid-state air-cooled camera.

Ami HTX Optical Imaging System

The AMI HTX offers high efficiency benchtop imaging for BLI, FLI and X-ray. With 5 mouse capacity, the AMI HTX is a fantastic option for daily use.

- Patented LED-based illumination provides unprecedented power and previously unattained sensitivity for FLI and BLI.
- Native FOV of 25 cm x 17 cm, easily imaging 5 mice at a time.
- 10 excitation LED's. 10 emission filters of your choice with custom options available. Additional filters can be changed by operator if needed.
- Unique materials and convection method produce even heating and uniform temperature for improved animal comfort and reliable enzyme kinetics.
- 40 keV X-ray power allows for large animal imaging (rats, guinea pigs, etc.)
- Solid-state air-cooled camera.



Specifications	Ami HT	Ami HTX
Maximum Optical Field of View (cm)	25 x 17	25 x 17
Number of LED (Fluorescent) Excitation Wavelengths	10	10
Included LED Excitation Wavelengths (nm)	430, 465, 500, 535, 570, 605, 640, 675, 710, 745	
Fluorescent Emission Filters	10	10
Standard Emission Filter Choices	490, 510, 530, 550, 570, 590, 610, 630, 650, 670, 690 710, 730, 750, 770, 790, 810, 830, 850, 870	
X-ray Source	Field Upgradeable	10 - 40 keV

Bruker Spectral Instruments Imaging

Lago Optical Imaging System

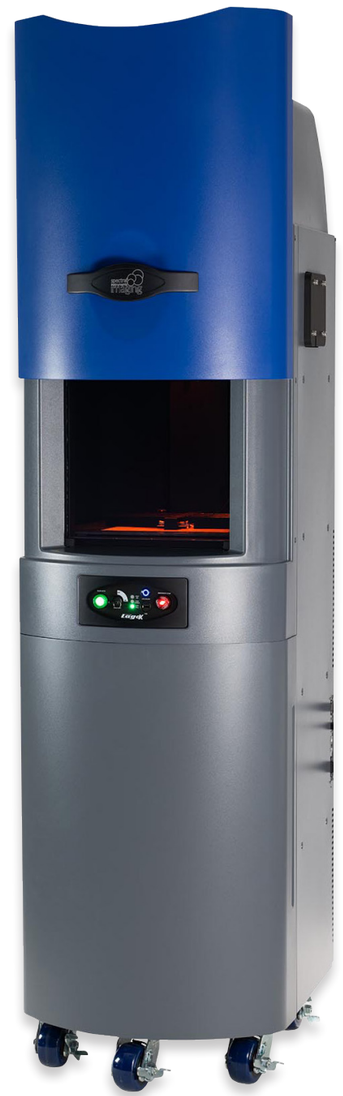
The Lago provides a powerful and flexible in vivo imaging system suitable for imaging cores, specialist researchers and small teams, delivering an unmatched 10 mouse capacity across BLI, FLI and X-ray.

- LED based illumination and Faint Signal detection provide unprecedented power and previously unattained sensitivity for FLI and BLI.
- 25 cm x 25 cm field of view (FOV) for BLI and FLI.
- 10 mouse capacity across BLI and FLI.
- High throughput capability.
- Provides nearly non-stop round the clock capabilities for high workload imaging cores.
- Solid-state air-cooled camera and state of the high-performance imaging capabilities.

Lago X Optical Imaging System with X-ray

The Lago X Optical Imaging system with X-ray provides the same performance as the Lago, with additional X-ray capability.

- Unprecedented and unmatched 10 mouse capacity across BLI, FLI and X-ray.
- 25 cm x 22 cm FOV for X-ray.
- Solid-state air-cooled camera.



Specifications	Lago	Lago X
Maximum Optical Field of View (cm)	25 x 25	25 x 25
Number of LED (Fluorescent) Excitation Wavelengths	14	14
Included LED Excitation Wavelengths (nm)	360, 405, 430, 465, 500, 535, 570, 605, 640, 675, 710, 745, 770, 805	
Fluorescent Emission Filters	20	20
Standard Emission Filter Choices	490, 510, 530, 550, 570, 590, 610, 630, 650, 670, 690, 710, 730, 750, 770, 790, 810, 830, 8	
X-ray Source	Field Upgradeable	10 - 50 keV

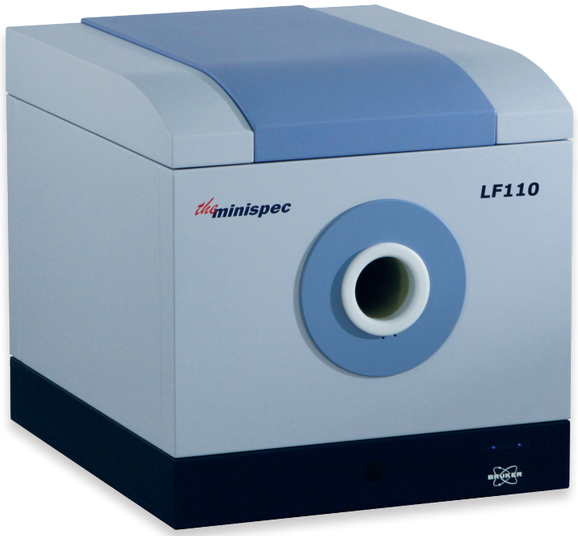
Minispec LF-50, LF-90, LF110

Bruker's minispec Whole Body Composition Analyser based on TD-NMR provides a precise method for measurement of lean tissue, fat and fluid in living mice and rats.

This body composition analyser boasts a novel and striking key feature. Because the animal is carefully handled without using any anesthetics, a new standard for longitudinal studies has been established.

Since its first launch in the beginning of 2001, the minispec Live Mice Analyser (LF50) has quickly gained market acceptance as a powerful, non-destructive and non-invasive mice analysis tool for characterising, screening and mouse phenotyping in research laboratories. It has become the industrial standard for fat and lean measurement in live mice with installations in major pharmaceutical companies, diabetes and obesity research institutes and universities.

- Enables researchers to perform multiple measurements during the life of the animal. Animals can be measured even every day, and the method is ideal for longitudinal studies.
- Non Invasive and Non Destructive.
- Quantitative method.
- Rapid analysis: measurement takes less than 2 minutes, no sample preparation.
- Economical procedures:
  - no consumables.
  - retain expensive lab animals for entire study.
- Reduced animal stress.
  - No need for anesthetics; no recovery time so minimal effect on metabolism.
  - Animals are measured 'as-is'.
  - Allows more frequent testing, due to reduction of risks to animal health, even daily acquisitions.
- Operator requires no special NMR skills.
- Easy and intuitive minispec software.
- Long-term reliable and problem-free operation.
- Better accuracy and precision compared to DEXA (X-ray) method.

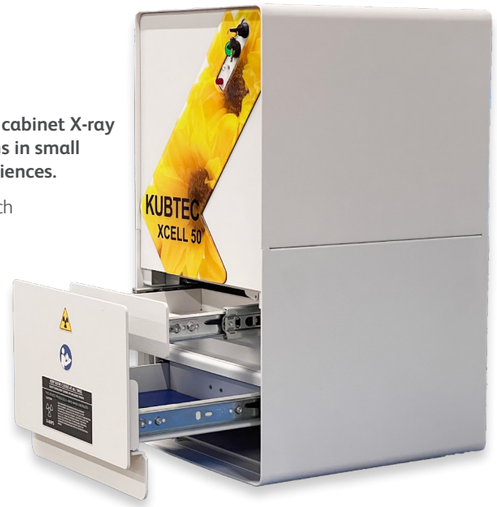


XCELL® 50 Benchtop X-ray Irradiator

The KUBTEC® XCELL® series of X-ray irradiators with optional cabinet X-ray imaging are versatile and powerful machines with applications in small animal and cell research, as well as agriculture and forestry sciences.

A compact and reliable benchtop irradiator available for cell research and tissue cultures, this user-friendly system is easily transportable between departments. With overall dimensions of 11" x 12" x 20", it is designed to be placed directly in the lab.

- Compact, lightweight, fully shielded and safe.
- Reliable.
- Dose output > 1 Gy/min.
- Easy to use.



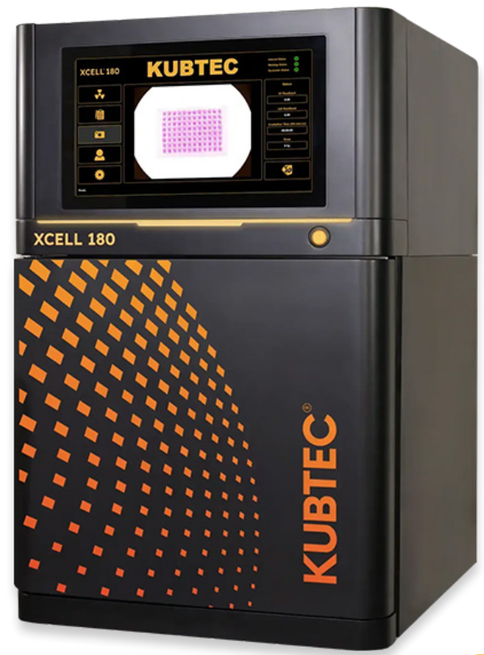
XCELL® 180 Benchtop Irradiator System

The XCELL® 180 benchtop X-ray irradiator system is a standalone X-ray system specifically designed for cell and tissue culture irradiation, delivering radiation to biological and agricultural samples as well as material components.

This irradiator not only gives you 180 kV, the highest energy available in a benchtop format, but also a comprehensive range of innovative proprietary technologies to help you to obtain high quality scientific results and improve efficiency.

The cabinet houses a large internal exposure chamber door with safety interlocks, turntable, user interface with a touchscreen monitor, and a live viewing camera.

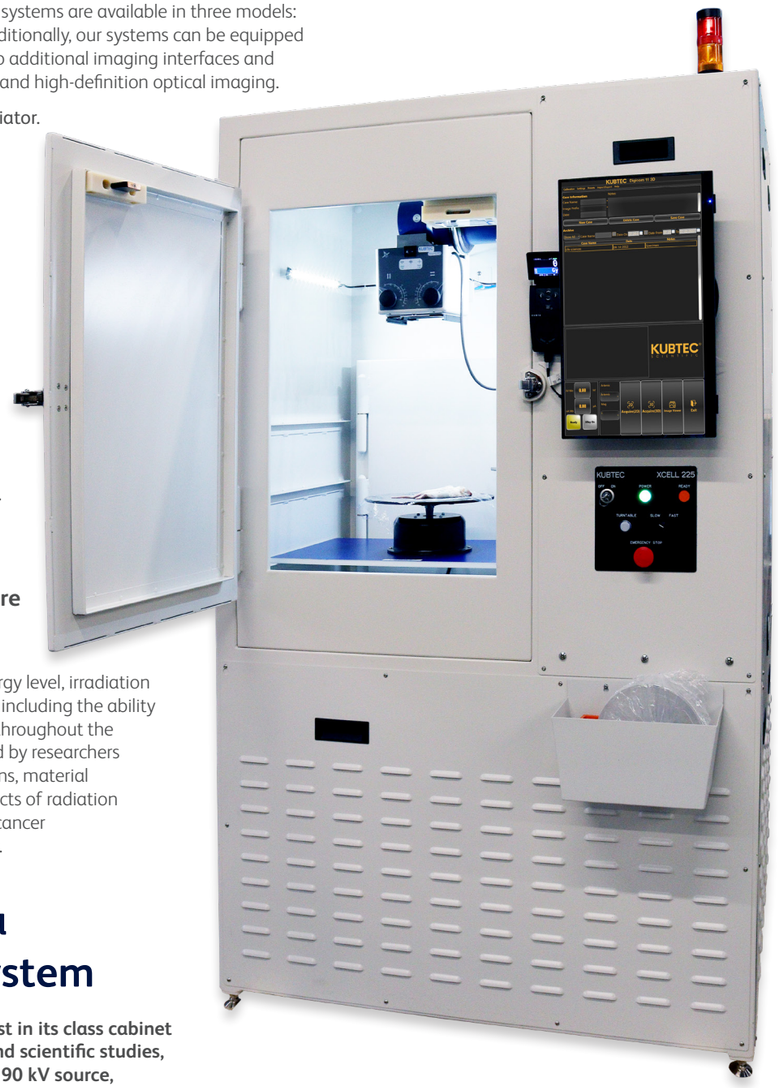
- **Unmatched Energy Range**
  Up to 180 kV for faster and more effective irradiation.
- **Small footprint**
  55 (W) x 68 (D) X 91 (H) cm
- **Live Feed**
  Enables an interior real-time view of the chamber to ensure sample placement is correct. Provides confidence that your work is progressing as planned.
- **Secure Mobile App**
  Peace of mind at your fingertips. Check on the status of your system and research from anywhere.
- **Multiple User Login**
  Allows the system admin to easily manage users, and access master event logs.
- **Integrated Turntable**
  Ensures a uniform dose at all intensity levels during the irradiation process.
- **Sleek Design with Easy Setup**
  No special training required, fast onboarding process for the system – just plug and play.
- **Connectivity**
  Networkable. Can be connected via LAN or Wi-Fi.



XCELL® Free-Standing Irradiation Systems

KUBTEC's full-size, free-standing X-ray irradiator systems offer a large chamber size with room to efficiently irradiate the widest range of samples. It is used to irradiate organic and inorganic specimens and material components.

The KUBTEC XCELL freestanding irradiator systems are available in three models: XCELL 160, XCELL 225, and XCELL 320. Additionally, our systems can be equipped with a radiographic detector to provide two additional imaging interfaces and capabilities: high-resolution X-ray imaging and high-definition optical imaging.



- Fully shielded and secured X-ray irradiator.
- Minimal training required.
- Self-contained cabinet.
- Large irradiation chamber for a range of samples.
- Automatic warm-up with intelligent tube conditioning.
- Adjustable sample shelf.
- Turntable for uniform irradiation of samples.
- Dosemeter for accurate exposure.
- Optional integrated digital X-ray imaging capability using proprietary DIGICOM® software, available in all free-standing systems.
- Optional entry port to introduce anesthesia and monitoring lines.

KUBTEC® DIGISOURCE® Software

DIGISOURCE® software comes with all KUBTEC® XCELL® X-ray irradiator systems. The software allows you to control the energy level, irradiation time, and desired dosage for each sample, including the ability to set and monitor both kV and mA levels throughout the treatment. KUBTEC DIGISOURCE is utilised by researchers to irradiate organic and inorganic specimens, material components, and for investigating the effects of radiation on the immune system, different types of cancer cells, and small animals in scientific studies.

Parameter® Supra Tomosynthesis System

The KUBTEC® Parameter® Supra is a first in its class cabinet X-ray system designed for preclinical and scientific studies, with multislice radiography, a powerful 90 kV source, and a large integrated viewing screen.

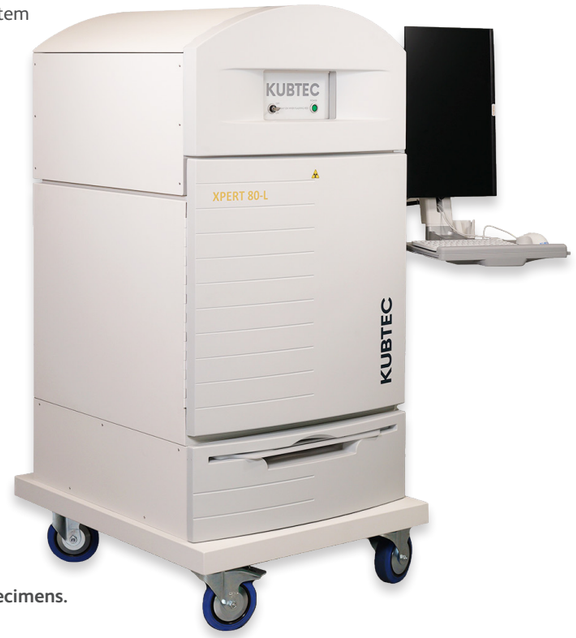
The system is one of the most comprehensive cabinet X-ray systems available, offering both 3D and 2D imaging capabilities.

- 23 x 29 cm detector.
- Proprietary auto magnification feature simplifies sample magnification and eliminates the use of manual Mag trays.
- Samples can be viewed in 1 mm slices.

KUBTEC® Scientific

XPERT 20 Core Specimen Radiography System

The most compact, most powerful, easy-to-use core radiography system for the biopsy suite, the XPERT 20 System's large imaging area captures the most cores in a single image.



- Reducing the need for multiple image capture, the XPERT 20 system decreases the time the patient spends under compression.
- Available for benchtop installations or on a mobile cart.
- Requires no specialised specimen container, and can accommodate most commonly available containers.

XPERT 40 Specimen Radiography System

The XPERT 40 System provides high-resolution specimen X-ray images combined with essential workflow management tools.

- Integrated HD camera.
- Proprietary Image Blender™ combines X-ray and optical images for the most comprehensive view.

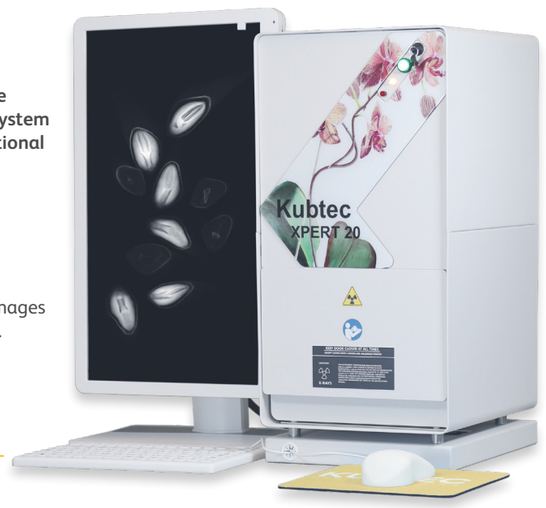
XPERT 80 Specimen Radiography System

The XPERT 80 System is ideal for the routine imaging of gross specimens.

- Large 25 cm x 30 cm detector provides high-resolution X-ray images for pathology specimens of all sizes.
- Integrated HD camera automatically creates optical images of specimens for use as a reference and to upload to a LIS.
- Image Blender™ tool that helps reduce turnaround time for patient specimens.
- Combines X-ray and optical images for a comprehensive view of any specimen.
- CopyPath feature enables export of X-ray and optical images to external systems outside of PACS for remote viewing.
- 5-micron microfocus X-ray source to provide image resolution of up to 100 lp/mm.

XPERT 80-L Specimen Radiography System

Featuring the largest detector available 43 cm x 43 cm, the XPERT 80-L system images the widest variety of specimens ranging from the smallest lymph nodes right up to a full-term fetus or adult femur. Where fetal demise investigation is needed the high-resolution XPERT 80-L system provides rapid, highly detailed images to measure gestational assessment, malformations, and skeletal dysplasia.



- Image Blender™ tool helps reduce turnaround time for the patient specimen.
- Combines X-ray and optical images for a comprehensive view of any specimen.
- CopyPath feature enables export of X-ray and optical images to external systems outside of PACS for remote viewing.
- 5-micron microfocus X-ray source provides image resolution of up to 100 lp/mm.

Service and Support

Southern Scientific has a team of fully qualified service engineers, who support customers spanning the length and breadth of the UK. We can provide factory or on-site service as required, based on single visits, planned maintenance or full support under contract. We maintain a high level of spare parts, ensuring lifetime support capability.

Our systems group can offer its service for the larger installed equipment, from initial planning to installation, completion and training. We can provide expert knowledge and experience, gained through involvement in a number of large-scale projects throughout the years.

ISO Certified

Southern Scientific Ltd is certified to ISO 9001 and ISO 13485 representing the high level of quality assurance and management that we provide at every stage of the supply process, whether a product is distributed on behalf of our trusted manufacturers or constructed in our UK workshop. This accreditation means that our customers can place an order knowing that the delivered product will be suitable for its intended use, fully compliant with EU legislation and in full working order.

All our products are CE marked.

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