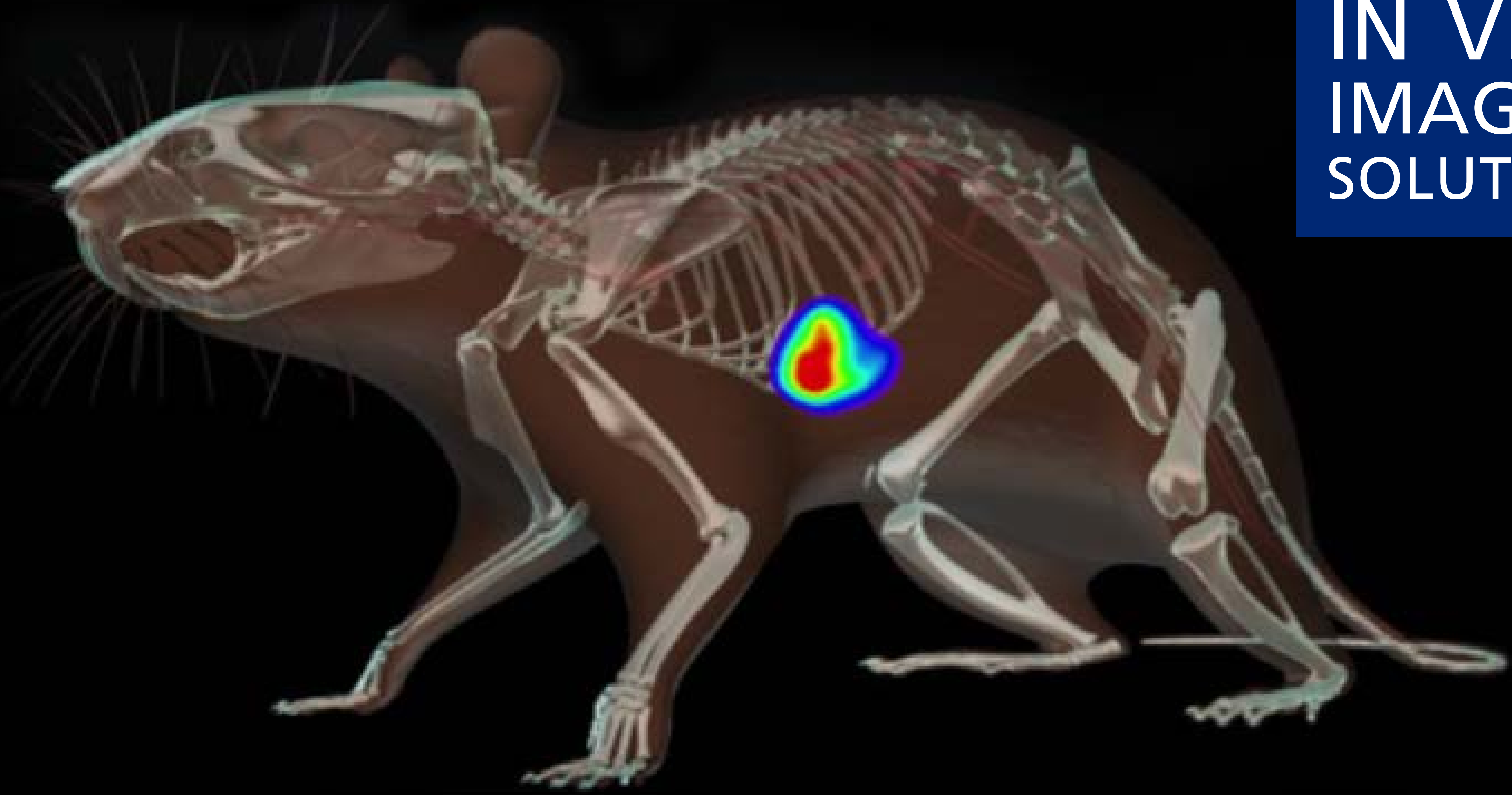


IN VIVO IMAGING SOLUTIONS



Leading the way in molecular imaging

Gain a greater understanding of disease and therapeutic efficacy using our wide range of in vivo imaging solutions.

Researchers trust our in vivo imaging solutions to give them reliable, calibrated data that reveals pathway characterization and therapeutic efficacies for a broad range of indications. Our reagents, instruments, and applications support have helped hundreds of research projects over the years. And our hard-earned expertise makes us a trusted provider of pre-clinical imaging solutions—with more than 9,000 peer-reviewed articles as proof.

Your path to discovery starts here

Inject

Bioluminescent, Fluorescent & Radionuclide Imaging Agents



Analyze

Advanced Imaging Software



Image

2D & 3D Optical, microCT & PET Imaging Systems

Support

Service & Application Expertise



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In Vivo Imaging Reagents

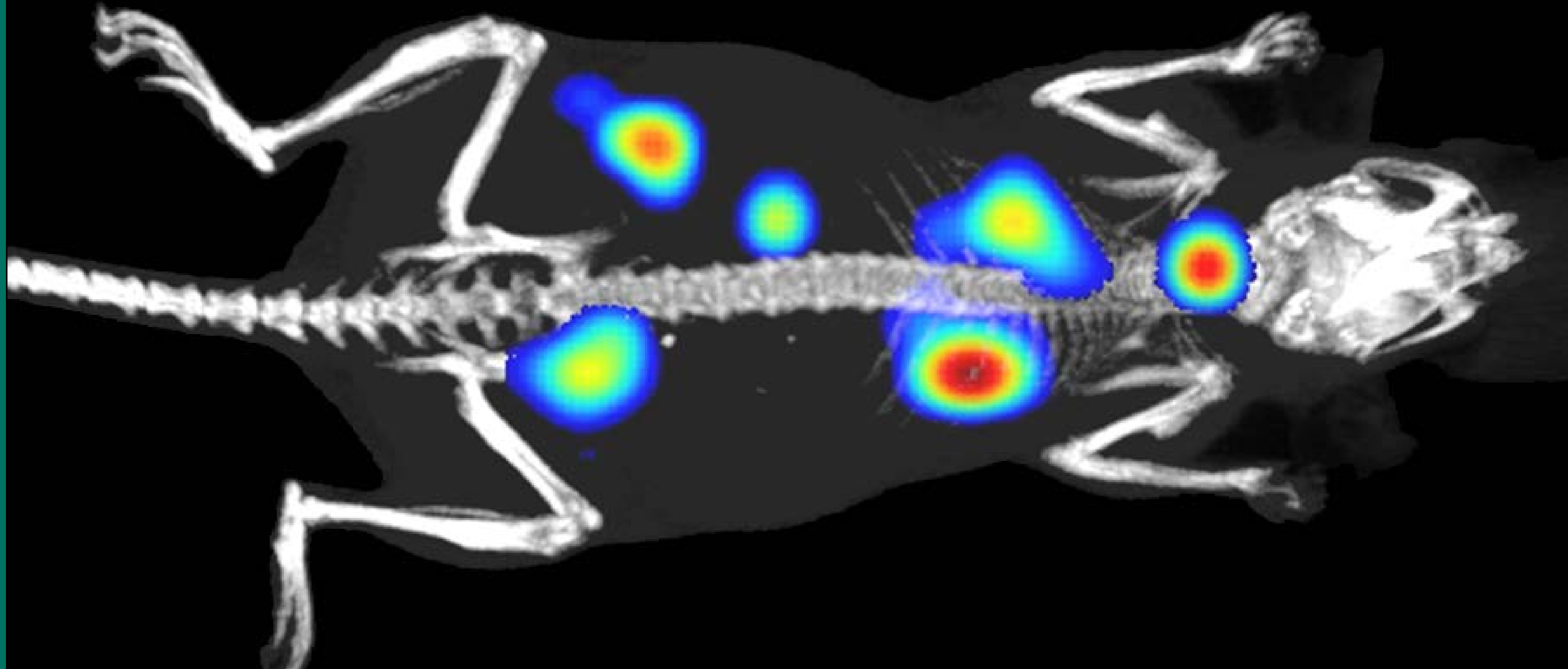
In vivo imaging solutions start with our comprehensive portfolio of optical imaging reagents built around your applications.

[Bioluminescent Reagents »](#)

[Fluorescent Reagents »](#)

[Radioimaging Nuclides »](#)

Metastases of Bioware® Brite Cancer Cell Line imaged using the IVIS SpectrumCT



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[Case Studies](#)



[INTERACTIVE PRODUCT SELECTOR »](#)

Bioluminescent Reagents

Obtain more information from your target with PerkinElmer's wide range of bioluminescent reagents optimized on the IVIS[®] platform.

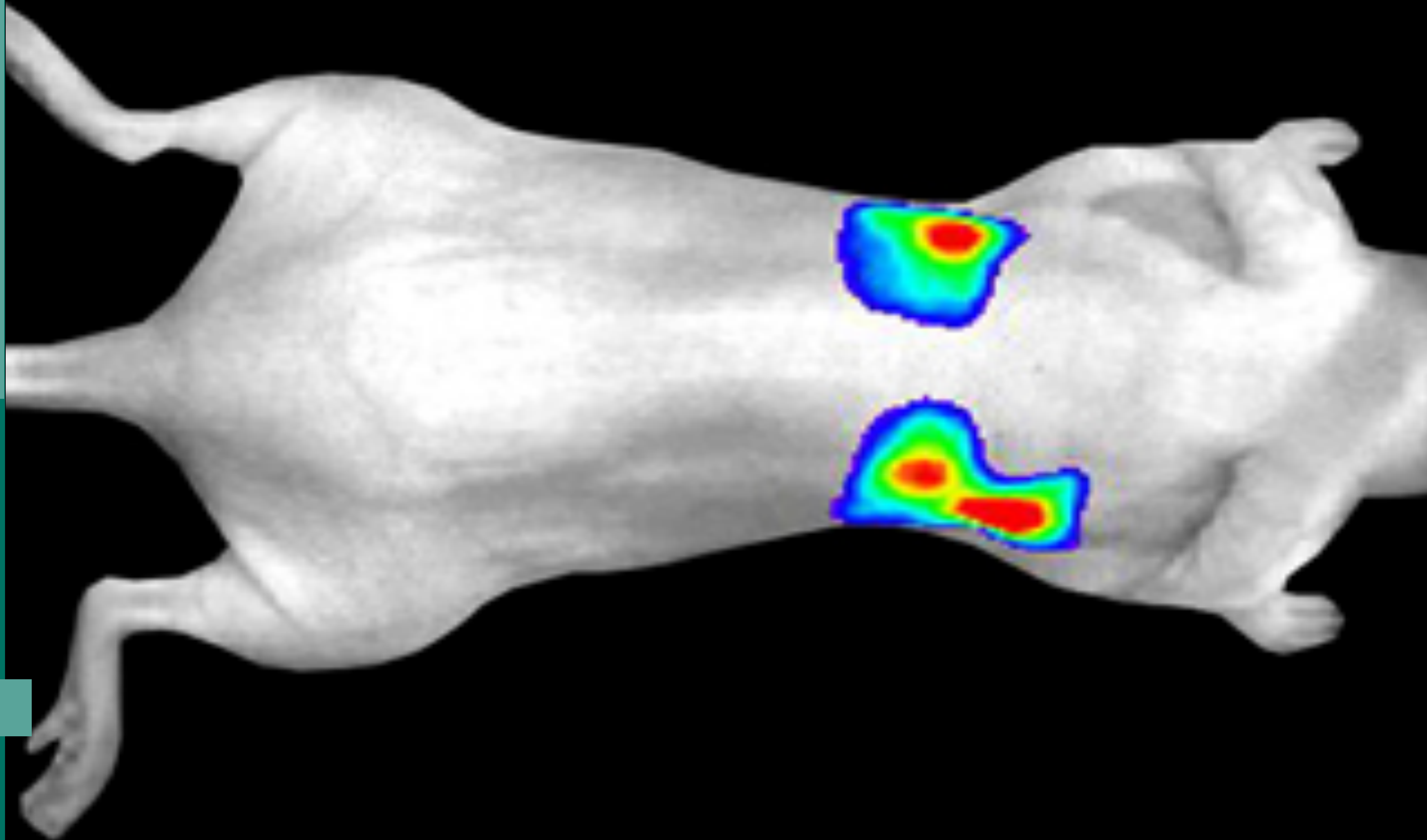
- Bioluminescent Substrates
- Bioluminescent Cancer Cell Lines
- Bioluminescent Bacteria
- Lentiviral Particles

Bioluminescent Reagents

[Fluorescent Reagents »](#)

[Radioimaging Nuclides »](#)

Bioware Brite MCF7 Red-FLuc bioluminescent cells (BW119262) imaged using IVIS



Fluorescent Reagents

Our comprehensive suite of fluorescent in vivo imaging agents enables unmatched imaging of a broad range of disease-related biomarkers and pathways in your research models.

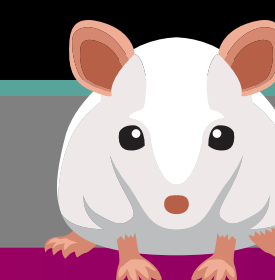
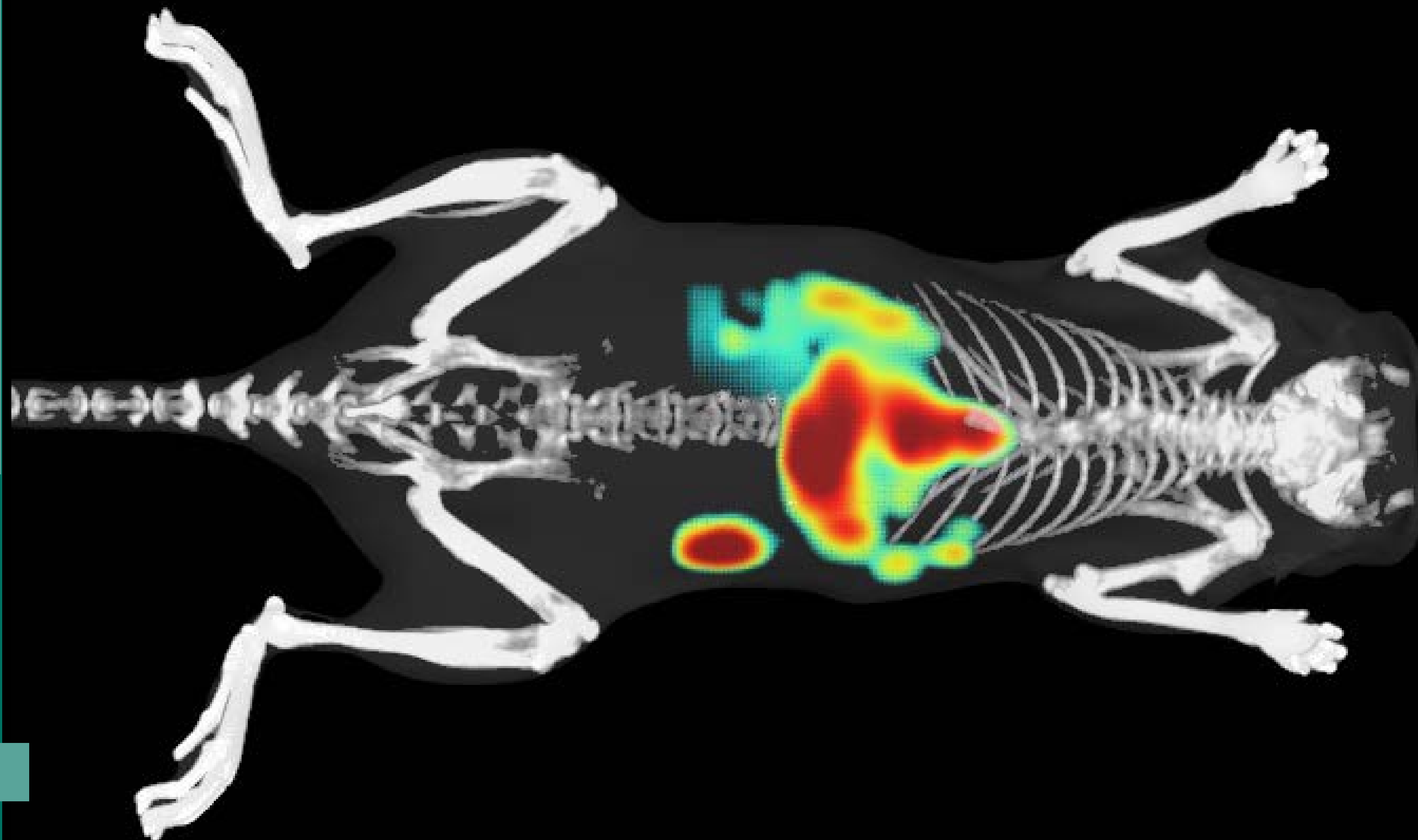
- Activatable Fluorescent Agents
- Targeted Fluorescent Agents
- Vascular Fluorescent Agents
- Fluorescent Labeling Dyes & Kits

[Bioluminescent Reagents »](#)

Fluorescent Reagents

[Radioimaging Nuclides »](#)

Annexin-Vivo 750 Fluorescent Agent (Cat# NEV11053) imaged using the IVIS SpectrumCT



Radioimaging Nuclides

Do you have the right radionuclide for your research? We provide radionuclides for many imaging modalities, including PET, SPECT, and Cerenkov Light Imaging.

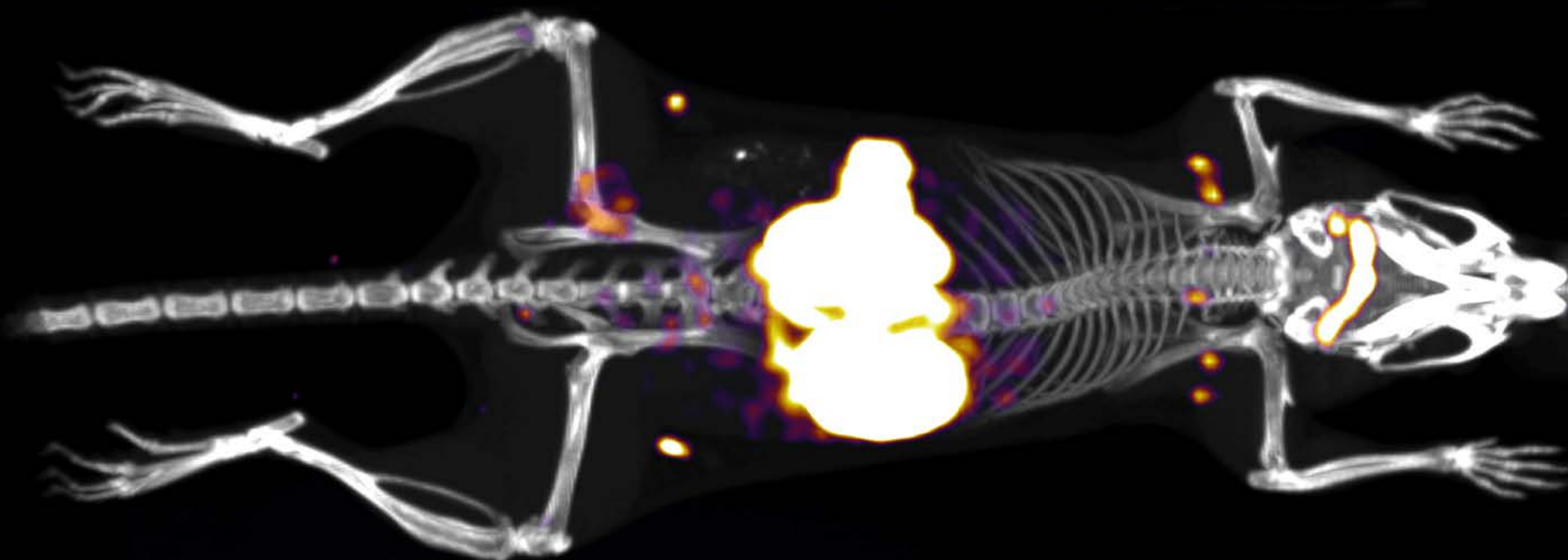
- Zirconium-89
- Yttrium-90
- Lutetium-177
- Chromium-51
- Phosphorus-32
- Iodine-124
- Iodine-131

[Bioluminescent Reagents »](#)

[Fluorescent Reagents »](#)

[Radioimaging Nuclides](#)

89-Zirconium labelled peptide imaged using the G8 PET/CT system.
Courtesy: Richard Tavare, UCLA



In Vivo Imaging Systems

Gain greater understanding of disease and therapeutic efficacy using our wide range of in vivo imaging systems. Our systems are available in single- and multiple-imaging modalities.



G8 PET/CT System



IVIS Lumina™ Series
Benchtop 2D Optical Systems



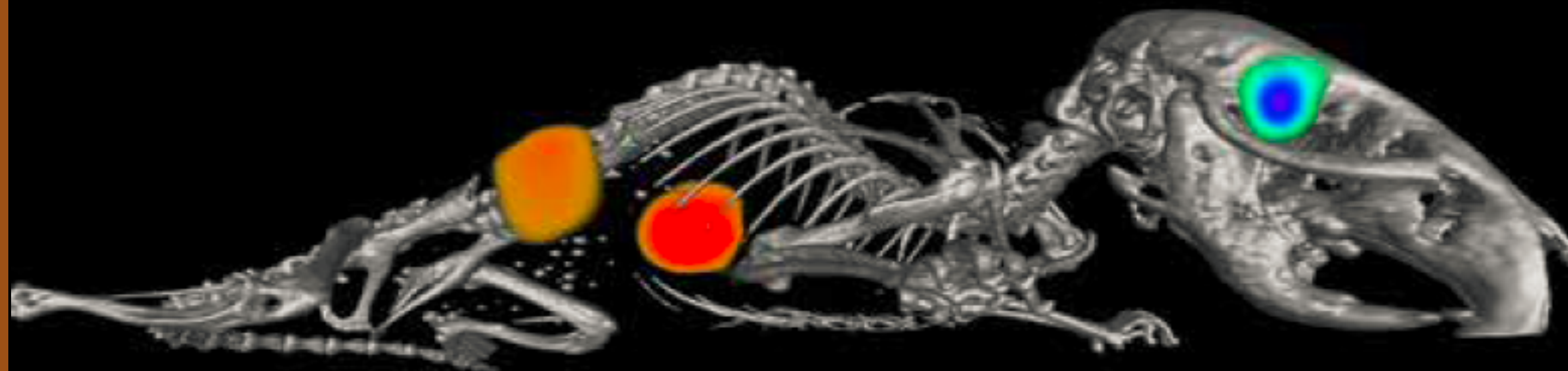
IVIS Spectrum™ Series
2D & 3D Optical
Tomography Systems



Quantum GX microCT System



Solaris™ Fluorescence Image-
Guided Surgery System



[Optical Imaging Systems »](#)

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Optical Imaging Systems

With thousands of peer-reviewed publications, PerkinElmer's optical imaging platform is the gold standard for imaging.

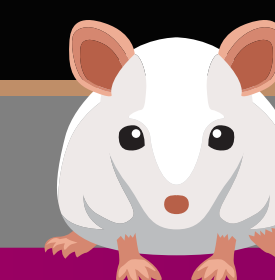
- IVIS Lumina Benchtop Series for 2D optical imaging with optional integrated X-ray
- IVIS Spectrum Series for 2D and 3D optical imaging with optional integrated microCT
- FMT® Series for 3D fluorescence tomography
- Solaris™ for fluorescence image-guided surgery applications

Optical Imaging Systems

[MicroCT Imaging Systems »](#)

[PET Imaging Systems »](#)

Bioware® Brite cell line 4T1-Red-FLuc (BW124087) knee metastasis model imaged using the IVIS Lumina X5™



MicroCT Imaging Systems

Heart and vasculature imaged using the Quantum GX

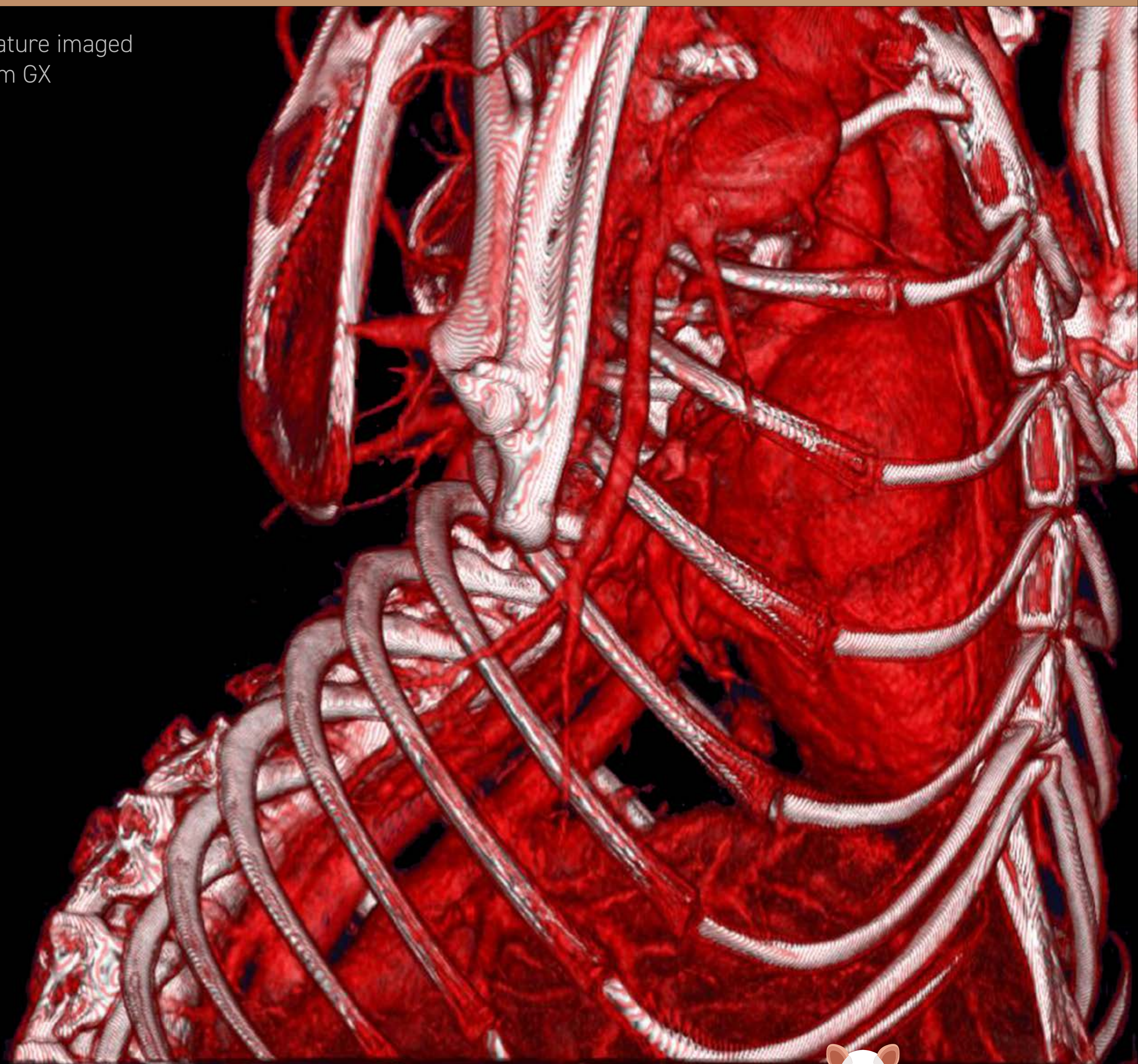
Low-dose, high-speed 3D X-ray imaging of anatomical and functional readouts—ideal for longitudinal imaging.

- Quantum GX high-resolution microCT system
- IVIS SpectrumCT optical system integrated with microCT
- G8 PET Scanner with integrated microCT

[Optical Imaging Systems »](#)

[MicroCT Imaging Systems](#)

[PET Imaging Systems »](#)



PET Imaging Systems

PerkinElmer brings the latest-generation in vivo imaging technology to pre-clinical investigators with the innovative G8 PET/CT system.

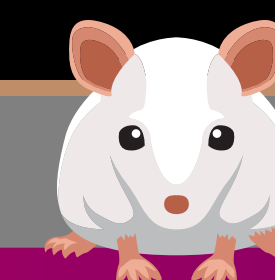
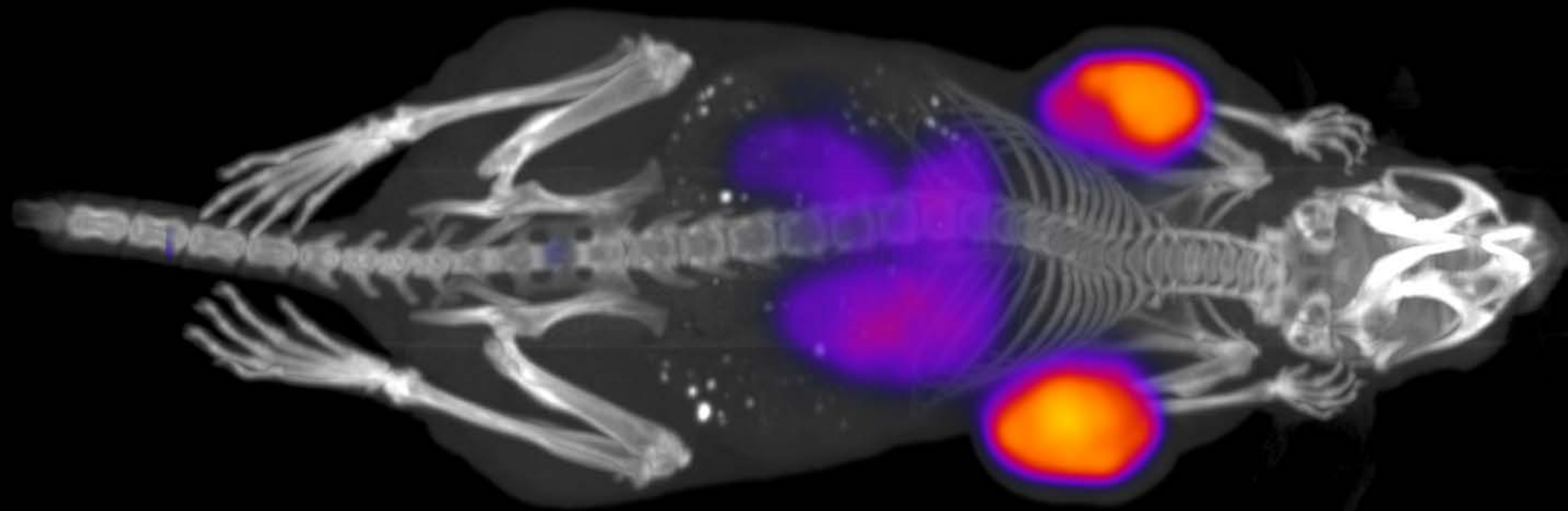
- PET with integrated sub-minute, low-dose microCT
- High-sensitivity and uniform resolution
- Compact benchtop footprint
- Integrated animal management
- Intuitive software user interface

[Optical Imaging Systems »](#)

[MicroCT Imaging Systems »](#)

[PET Imaging Systems](#)

⁶⁸Ga-DOTANOC PET/CT image using the G8 scanner
Courtesy: Dr. Cristina Müller ETH, Zurich, Switzerland



High-Performance Imaging Software

Analyze even the most complex imaging data with ease. Our software features intuitive workflows that streamline data analysis to expedite turnaround from acquisition to presentation.

- Living Image® designed for the IVIS platform
- TrueQuant® for streamlined analysis with the FMT platform
- AccuCT™ for advanced microCT analysis

[Living Image Software »](#)

[TrueQuant Software »](#)

[AccuCT Imaging Software »](#)



Living Image Software

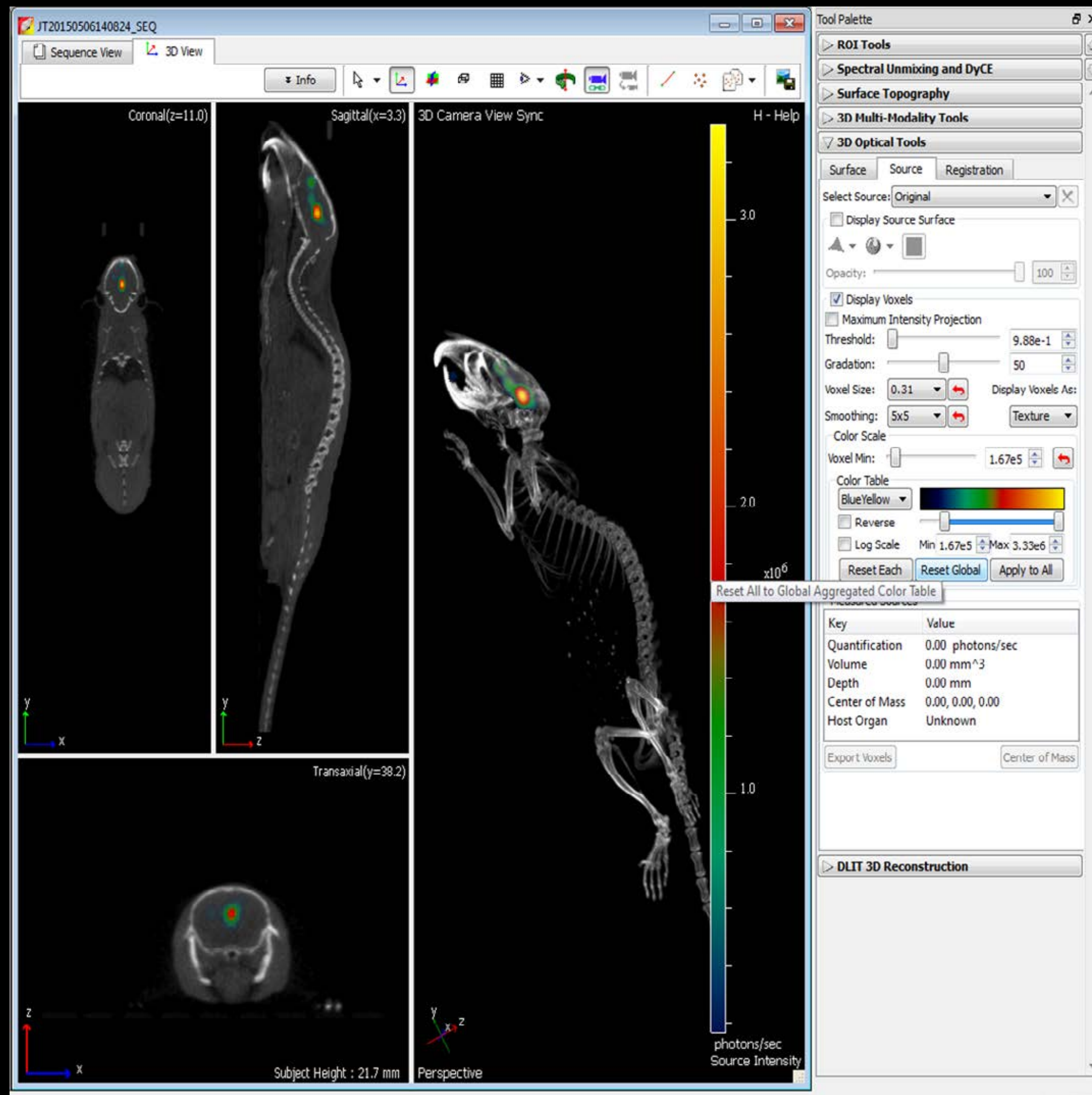
Living Image advanced software designed for the IVIS platform simplifies even the most complex image acquisition and analysis of bioluminescent and fluorescent probes in vivo.

- Imaging Wizard to streamline acquisition setup
- Longitudinal imaging analysis tools
- Comprehensive set of tools for 2D or 3D data analysis

Living Image Software

TrueQuant Software »

AccuCT Imaging Software »



TrueQuant Software

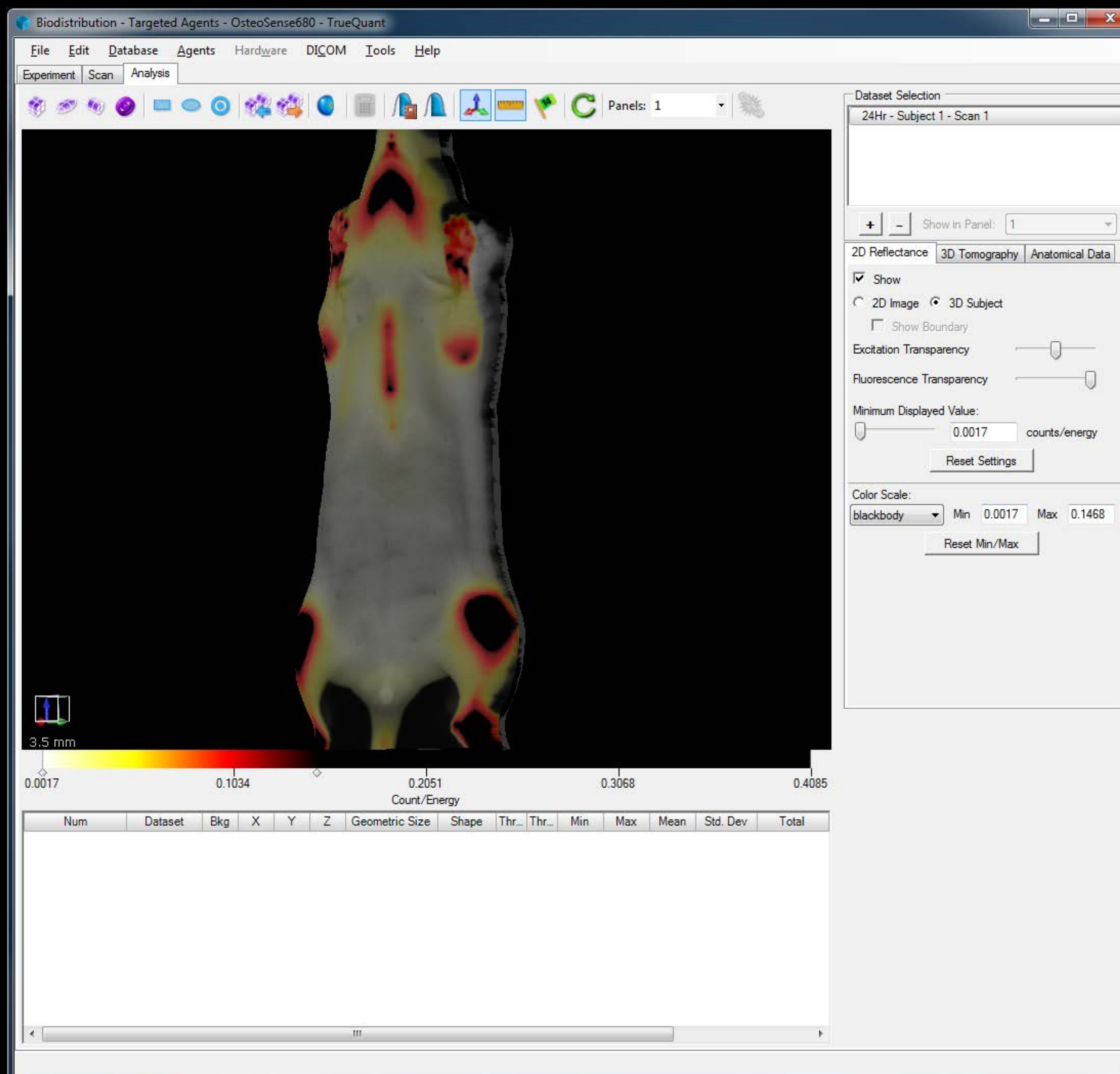
Designed for the FMT platform, TrueQuant software makes 3D fluorescence tomography easy with streamlined tools for data analysis.

- Advanced study management tools for streamlined acquisition
- Automated quantification
- Automated reconstruction with advanced algorithms

[Living Image Software](#) »

TrueQuant Software

[AccuCT Imaging Software](#) »



AccuCT Imaging Software

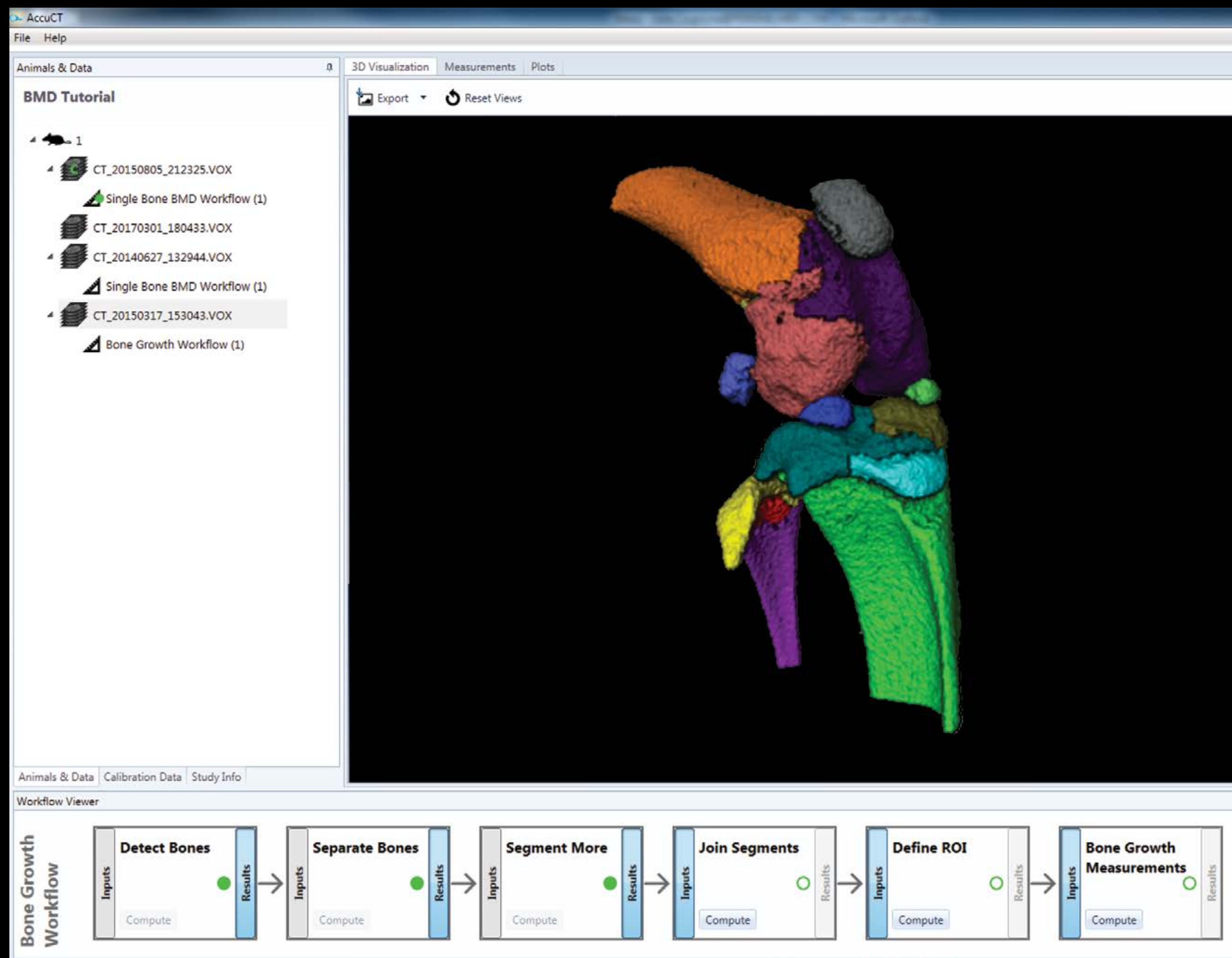
Perform bone morphology and BMD analysis in just a few clicks with AccuCT advanced microCT imaging software designed for the Quantum imaging system.

- Workflow-based software interface
- Automated bone segmentation
- User-friendly analysis, reducing variation between users

Living Image Software »

TrueQuant Software »

AccuCT Imaging Software

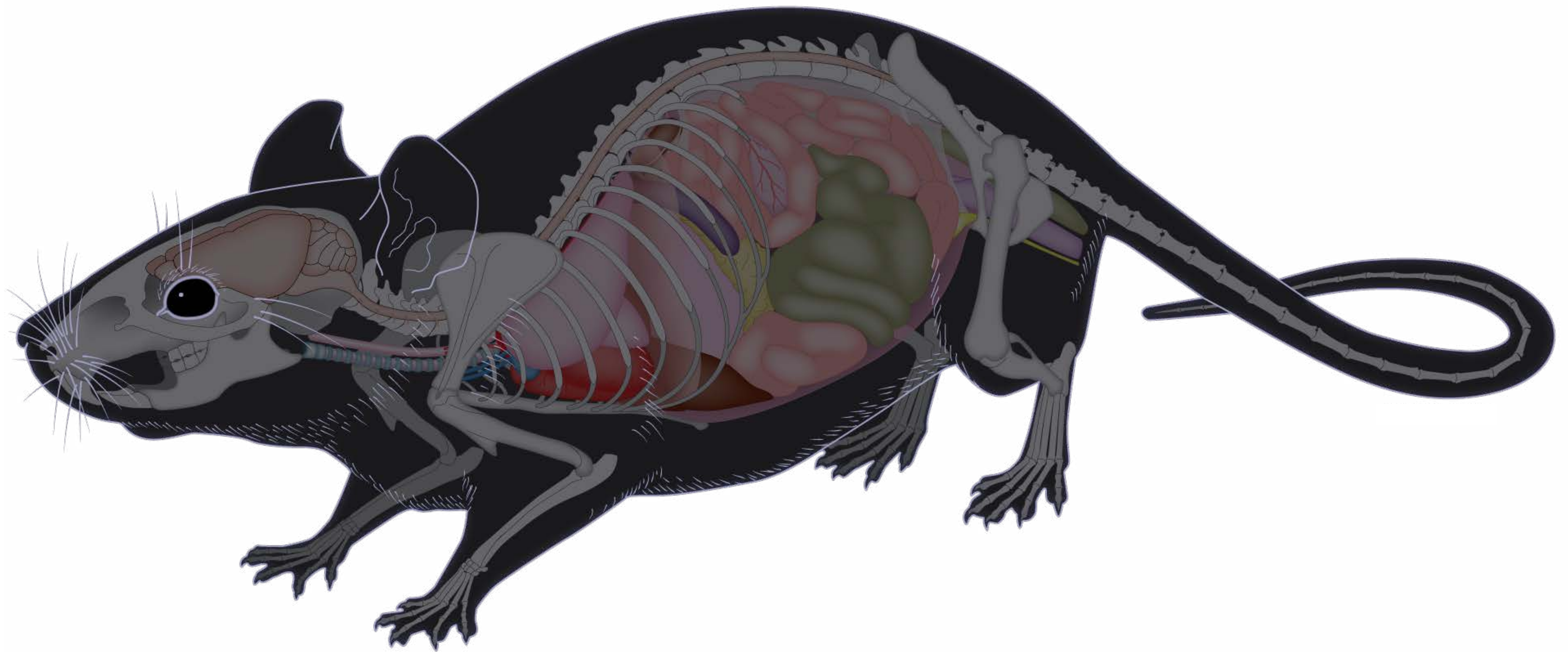


Service & Application Support

The more you know, the better research decisions you can make. With our expert application and service support, we ensure that you keep your instruments running and your research moving forward.

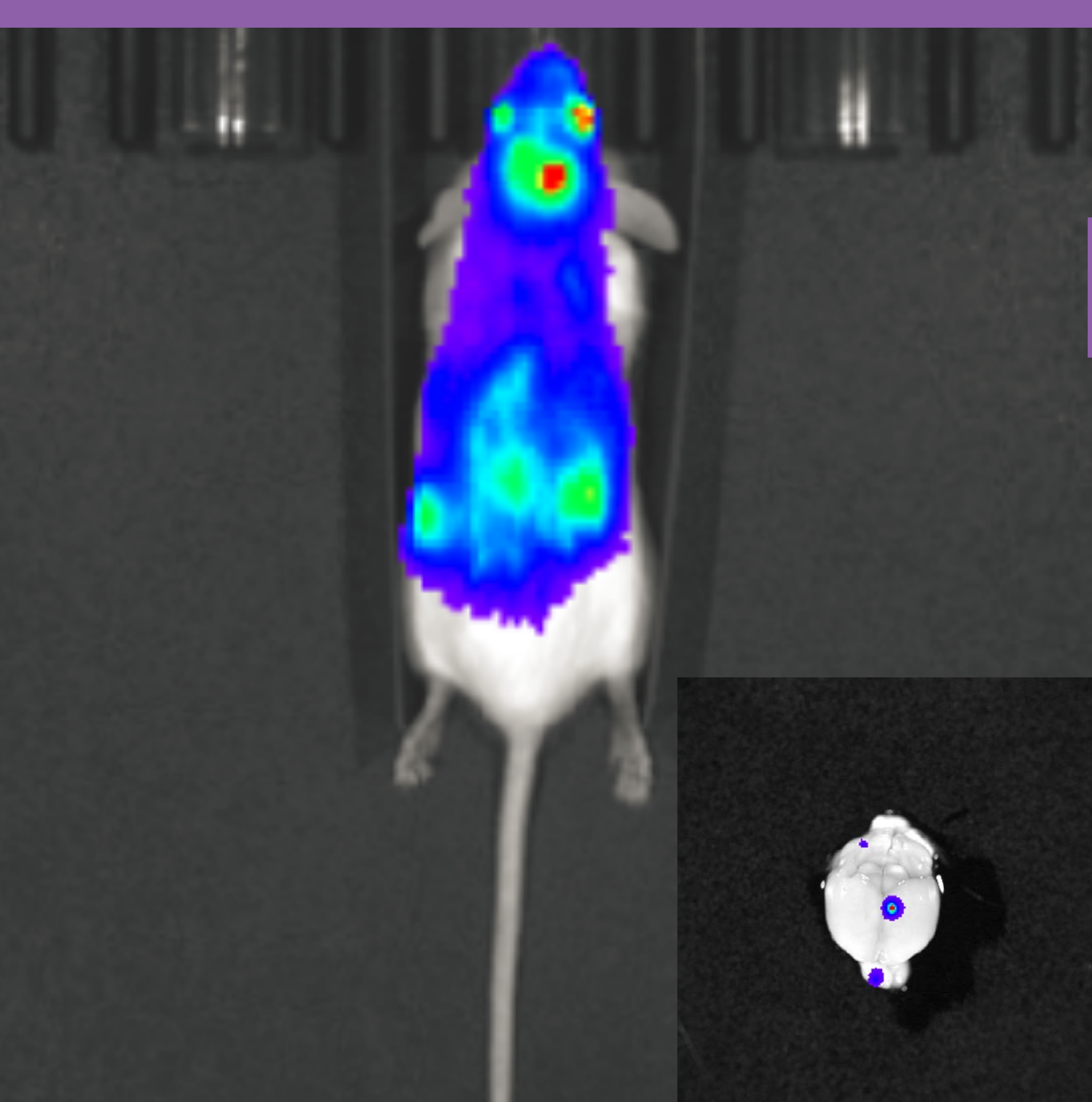
- Scientific expertise across a wide range of application areas
- Hands-on training through In Vivo University
- OneSource[®] Laboratory Service Support





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CASE STUDY:

Oncology



Jen Koblinski, PhD

Assistant Professor of Pathology

*Massey Cancer Center, Virginia
Commonwealth University*

Dr. Koblinski has had a long interest in the relationship between tumor cells and their specific microenvironments during the metastatic cascade, with a specific interest in the brain. Her research focuses on elucidating the role of syndecans, heparan sulfate proteoglycans, in facilitating breast cancer metastasis to the brain. With the IVIS Spectrum imaging system, Dr. Koblinski is able to track and quantify brain metastases in vivo and ex vivo, gaining insights into the mechanisms that facilitate breast cancer brain metastasis.

NEXT »



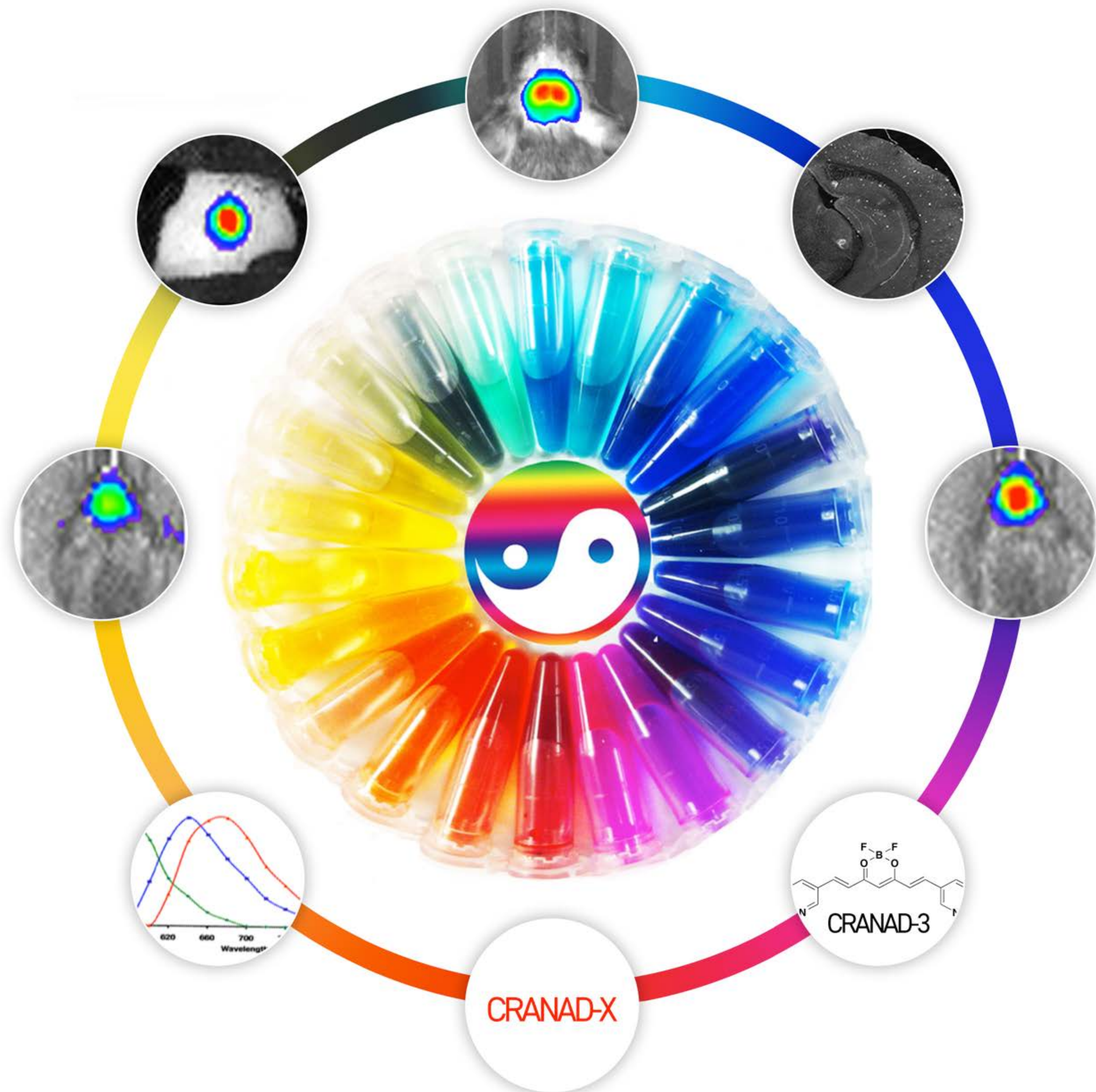
CASE STUDY:

Alzheimer's Disease



Chongzhao Ran, PhD
Assistant Professor of Radiology
*Martinos Imaging Center, Massachusetts
General Hospital, Harvard Medical School*

Dr. Ran's research has been focused on developing probes for systemic molecular imaging of Alzheimer's disease. In the past years, Dr. Ran's group has invented curcumin-based fluorescence probe library, CRANAD-X, for imaging various amyloid beta ($A\beta$) species and oxidative stress (H_2O_2 and ROS). With the IVIS Spectrum imaging system, Dr. Ran's group demonstrated that NIRF brain imaging with CRANAD-X could be used to detect soluble and insoluble $A\beta$ s of AD mouse models. Recently his group showed that NIRF ocular imaging (NIRFOI) could detect and monitor $A\beta$ s in the eyes of AD mice. NIRFOI has the potential for clinical applications in the future.



« PREVIOUS

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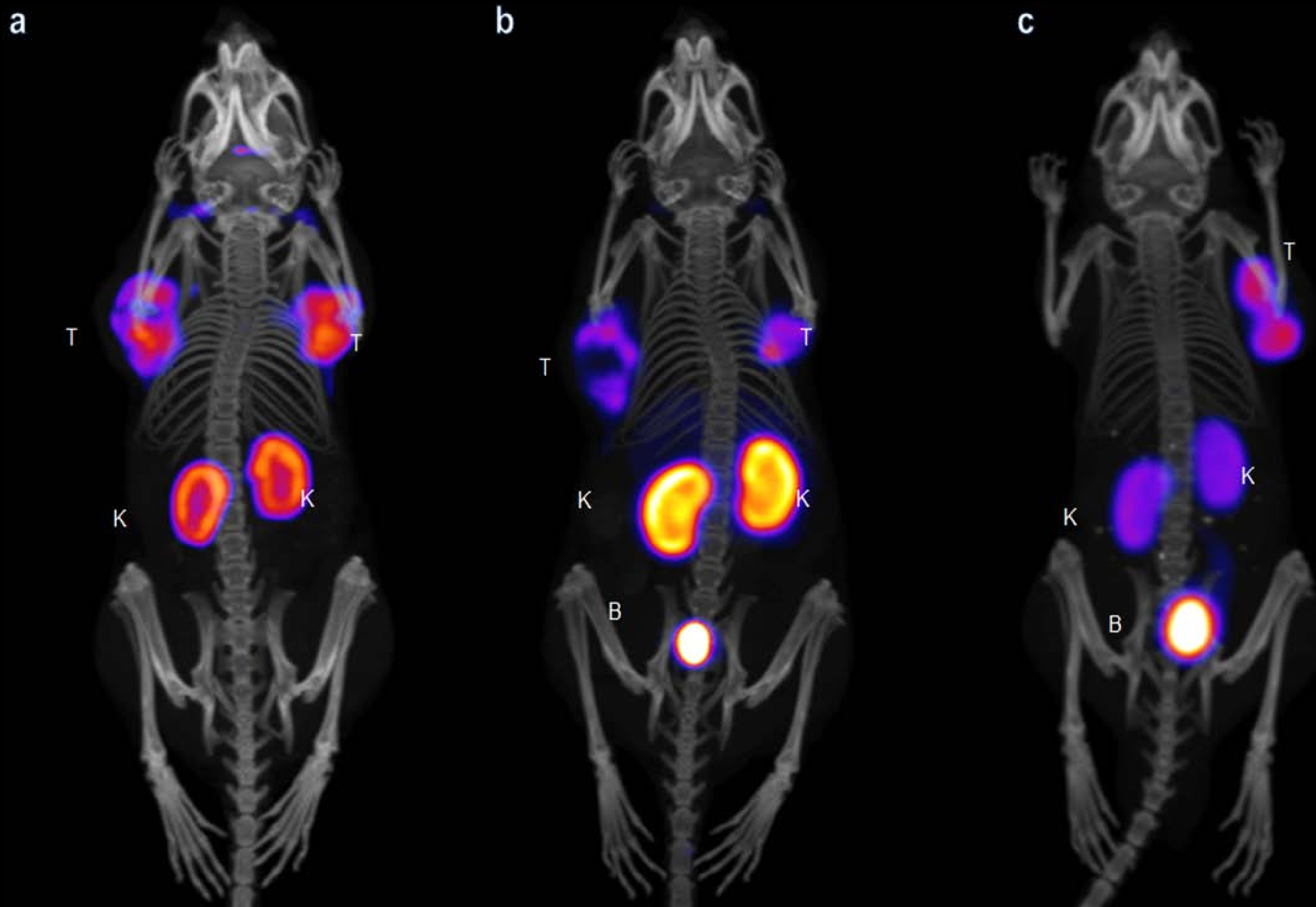
CASE STUDY:

PET Probe Development



Cristina Müller, PhD
Group Leader

*Center for Radiopharmaceutical
Sciences (ETH/PSI), Zurich, Switzerland*



(a) ^{64}Cu -NODAGA-folate static PET scan in CD1 nude mice with cervical cancer xenografts
(b) ^{18}F -AzaFol static PET in CD1 nude mice with cervical cancer xenografts
(c) ^{44}Sc -labeled PSMA-617 static PET/CT scan of SCID mouse with LNCaP prostate cancer xenograft

T = Tumor
K = Kidney
B = Bladder

All PET/CT images courtesy of Dr. Cristina Müller, Center for Radiopharmaceutical Sciences (ETH/PSI), Zurich, Switzerland, used with permission.

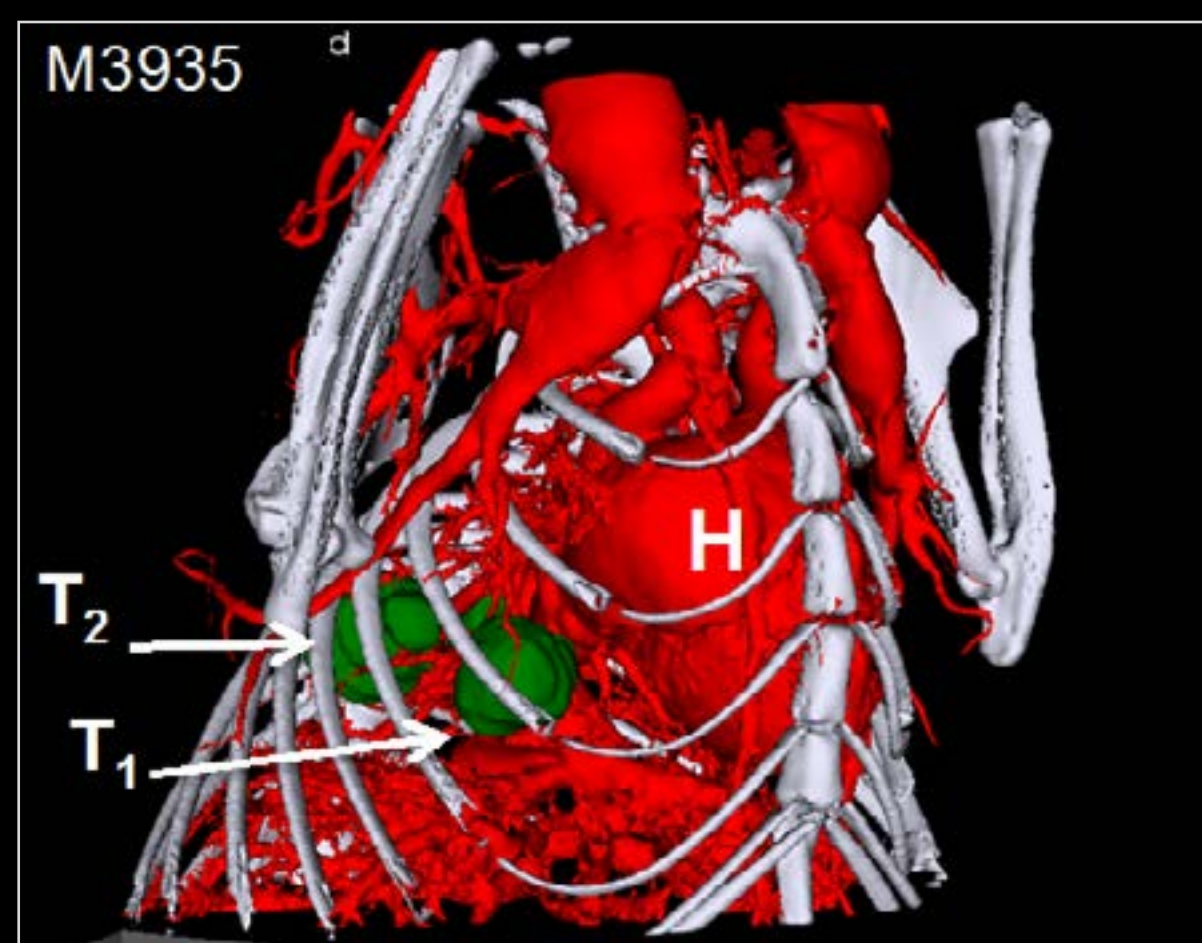
Dr. Müller's research has been focused on developing probes for Positron Emission Tomography (PET) for use in a number of applications, including development and evaluation of folate-based radioconjugates and the imaging and therapy of cancer and inflammatory diseases. For Dr. Müller's group, the G8 PET/CT has proven to be particularly effective for the evaluation of novel in-house produced radiotracers, which are initially only available in small quantities. The fact that the scanner is small and mobile has allowed her group to transport it to other facilities, enabling them to recently use the G8 PET/CT for imaging in vivo ^{11}C production after proton irradiation of tumor xenografts in mice.

« **PREVIOUS**

NEXT »

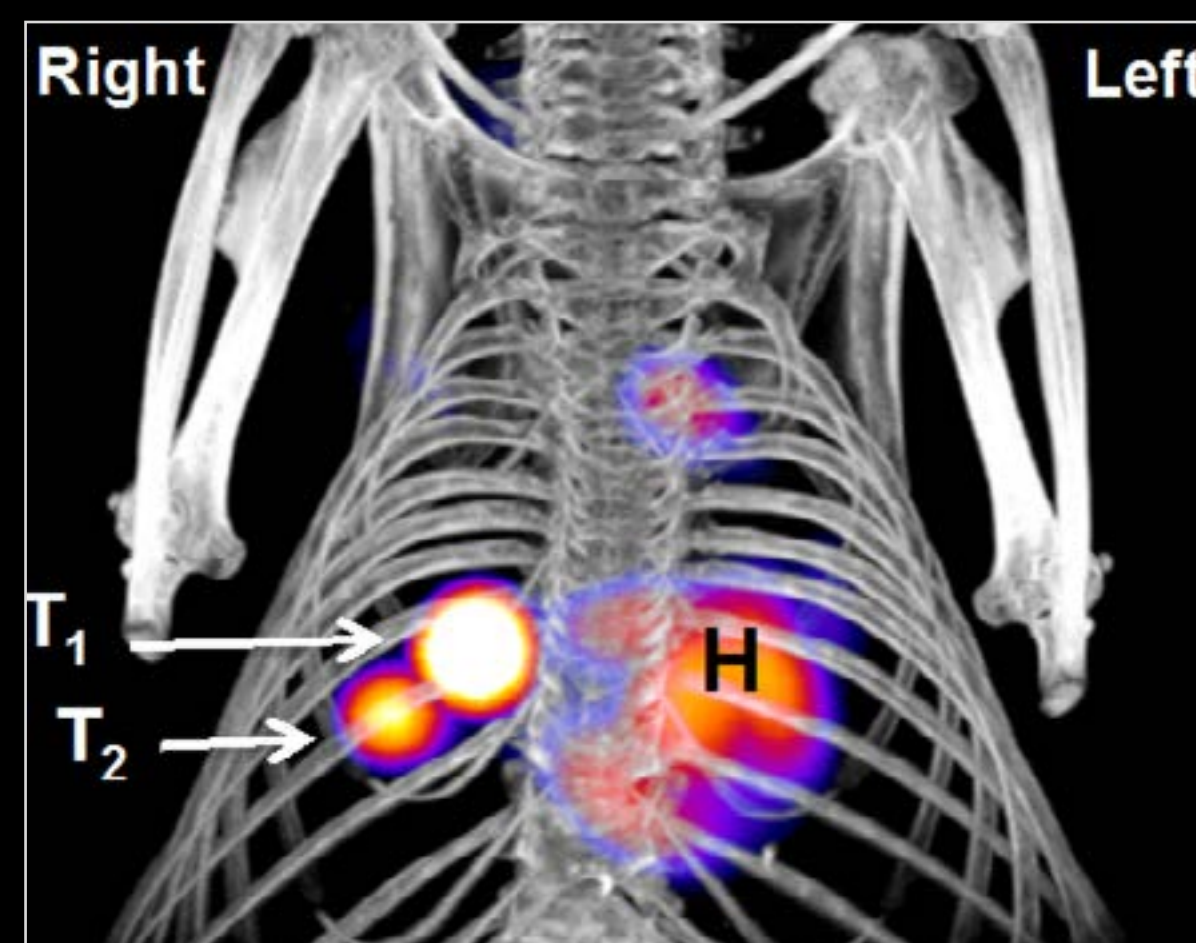


a CT (Quantum GX)



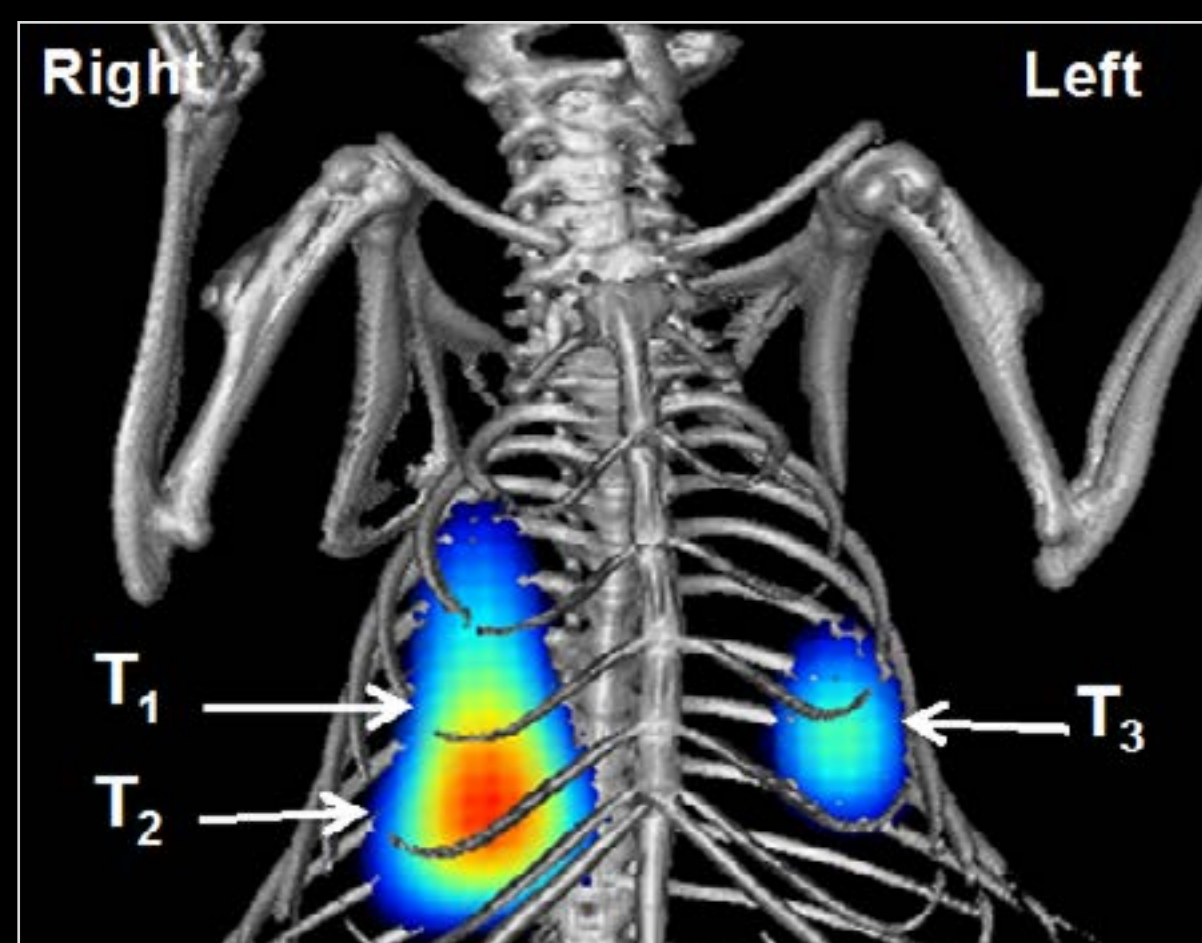
Contrast

b PET & CT (G8)



18F-FDG

c 3D BLI (IVIS Spectrum)



D-luciferin

d 3D BLI (IVIS Spectrum)



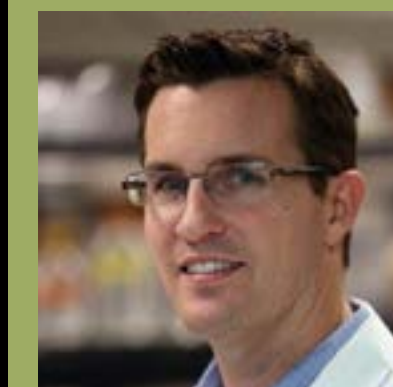
PeroxyTrace (H₂O₂)

Multimodality imaging of genetically engineered mouse models (GEMMs) of lung cancer.
(a) Computed tomography (CT) imaging with contrast in a GEMM of lung cancer. T = tumor. H= heart.
(b) ¹⁸F-FDG positron emission tomography (PET) and CT imaging of the same mouse from (A).
(c) 3D bioluminescent imaging (BLI) of the same mouse using D-luciferin.
(d) 3D bioluminescent imaging (BLI) of the same mouse using a caged luciferin, PeroxyTrace, to measure intra-tumoral peroxide levels in tumors.

All PET/CT and BLI images courtesy of Dr. David Shackelford, UCLA David Geffen School of Medicine, Los Angeles CA, USA, used with permission.

CASE STUDY:

Multimodality Imaging



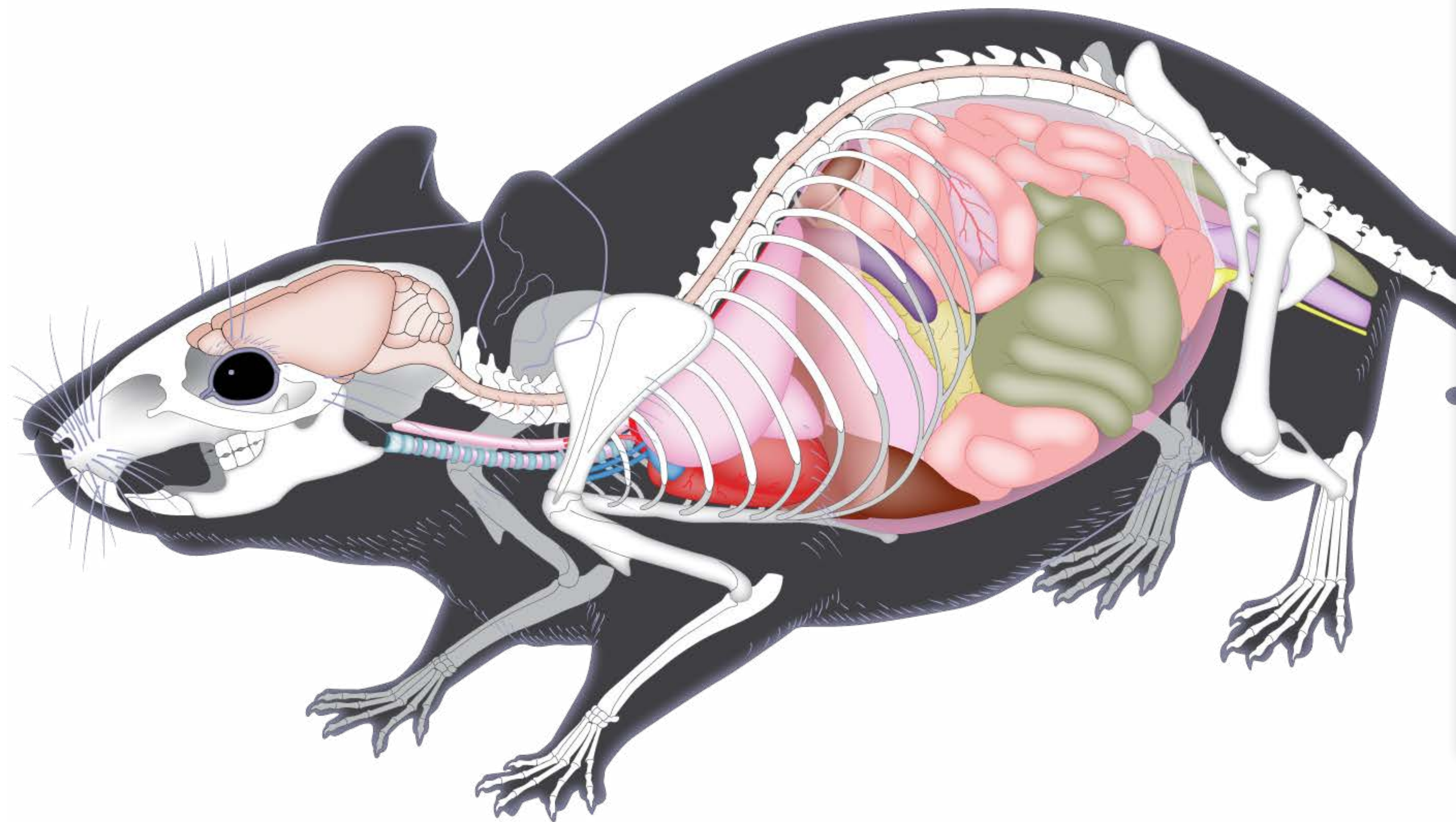
Dr. David Shackelford, PhD
Associate Professor
UCLA David Geffen School of Medicine

Dr. Shackelford's research focuses on understanding key genetic, molecular, and metabolic events that drive lung tumor development and progression. His focus is on using complementary multimodality imaging approaches on genetically engineered mouse models (GEMMs) of lung cancer in order to functionally map key metabolic events that shape tumorigenesis. His approach combines 3D bioluminescent imaging using the IVIS Spectrum with positron emission tomography (PET) imaging using the G8 PET/CT scanner. By coupling the use of caged luciferins with ¹⁸F-labeled radiotracers, Dr. Shackelford has begun to non-invasively profile key metabolic events that dictate how lung tumors form and evolve from early to advanced stages of the disease.

« **PREVIOUS**



INTERACTIVE PRODUCT SELECTOR »



FEATURED PRODUCTS ×

Fluorescent Agents

AngioSense®
TLectinSense™

Luminescent Reagents

Bioware® Brite tumor Cell Lines
RediFect™ Lentiviral Particles
XenoLight™ D-Luciferin K+ Salt

Radioimaging Nuclides

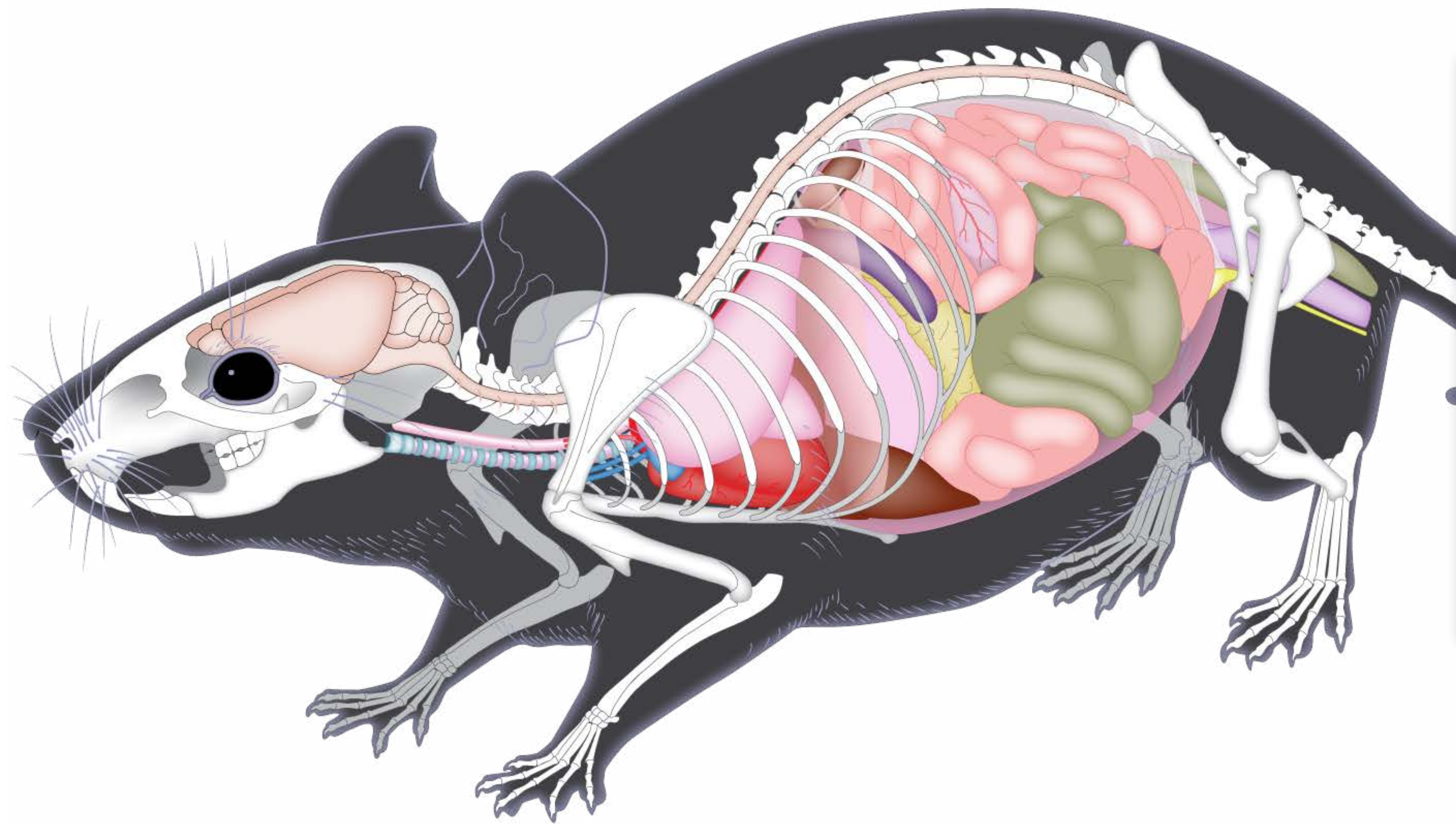
Zirconium-89

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
G8 PET/CT



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FEATURED PRODUCTS ×

Fluorescent Agents

Annexin-Vivo™

Radioimaging Nuclides

Iodine-124

Instruments

IVIS® Imaging Platform

FMT® Imaging Platform

G8 PET/CT





FEATURED PRODUCTS ×

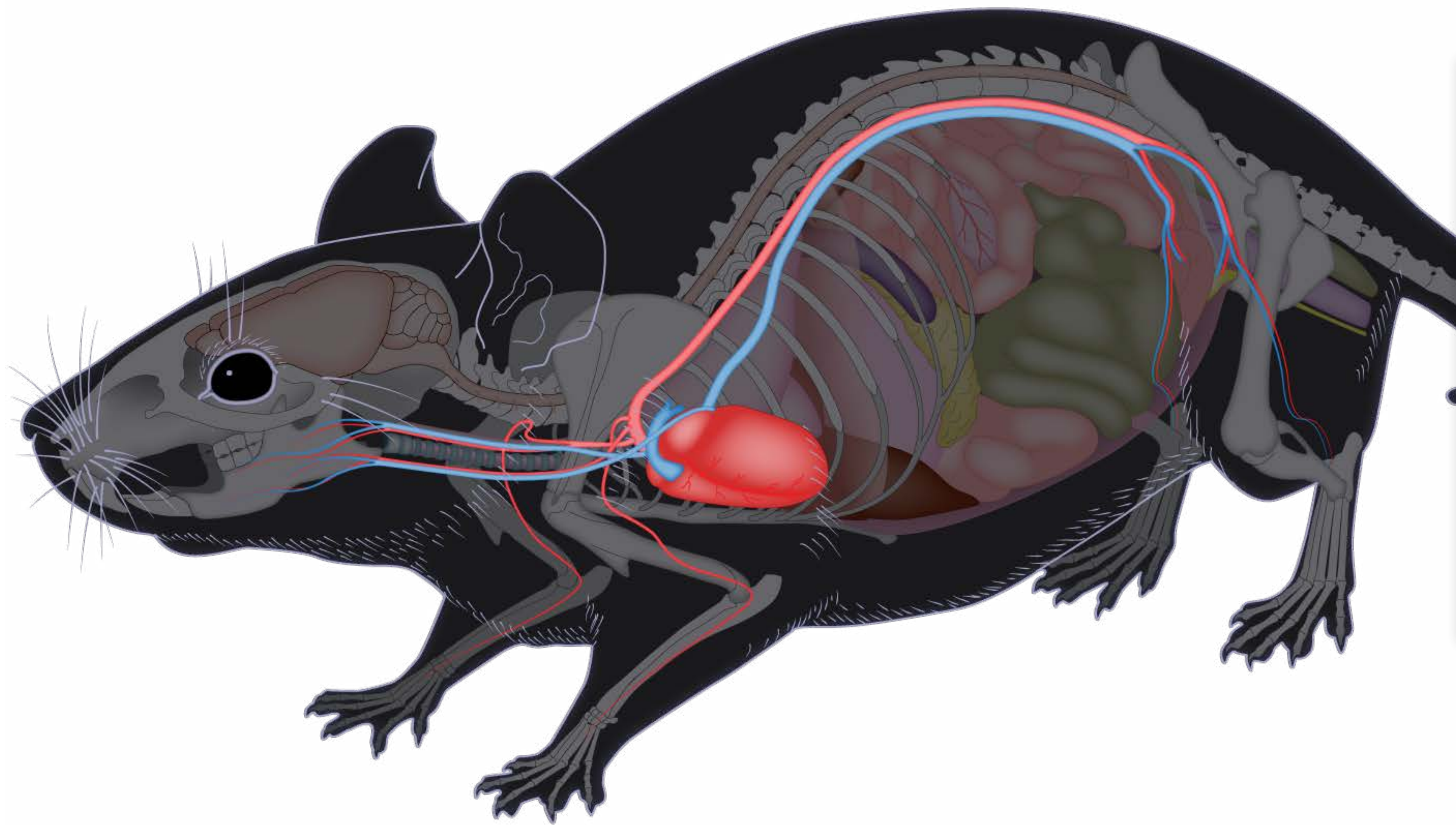
Fluorescent Agents

Cat B FAST
ProSense®
MMPsense®
OsteoSense®
RediJect COX-2 Probe

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
Quantum GX microCT





FEATURED PRODUCTS ×

Fluorescent Agents

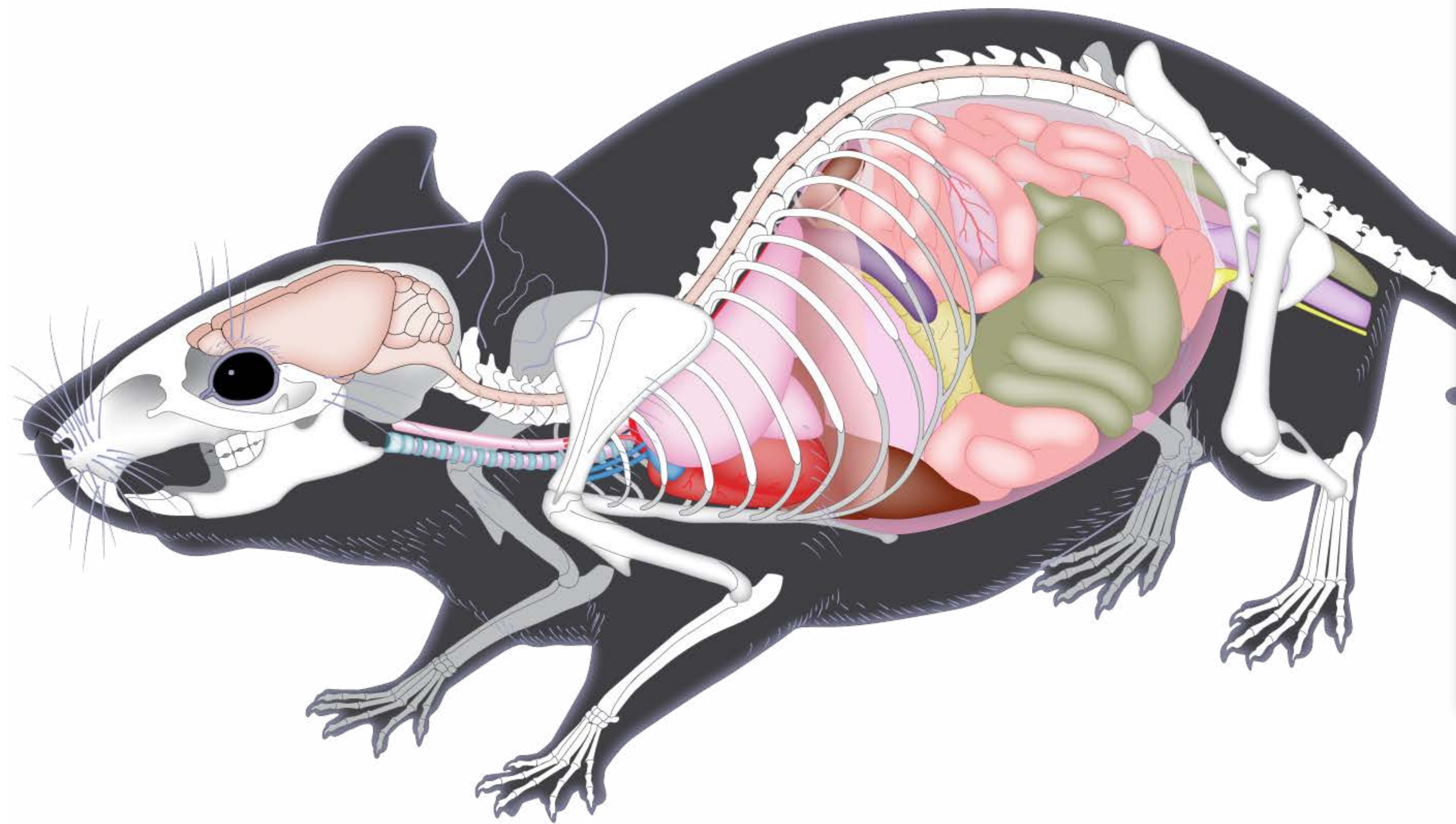
ProSense®
IntegriSense™
Cat B FAST

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
G8 PET/CT
Quantum GX microCT



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FEATURED PRODUCTS ×

Fluorescent Agents

VivoTrack™
XenoLight™ DiR Fluorescent Dye

Luminescent Reagents

Redifect™ Lentiviral Particles
XenoLight™ D-Luciferin K⁺ Salt

Radioimaging Nuclides

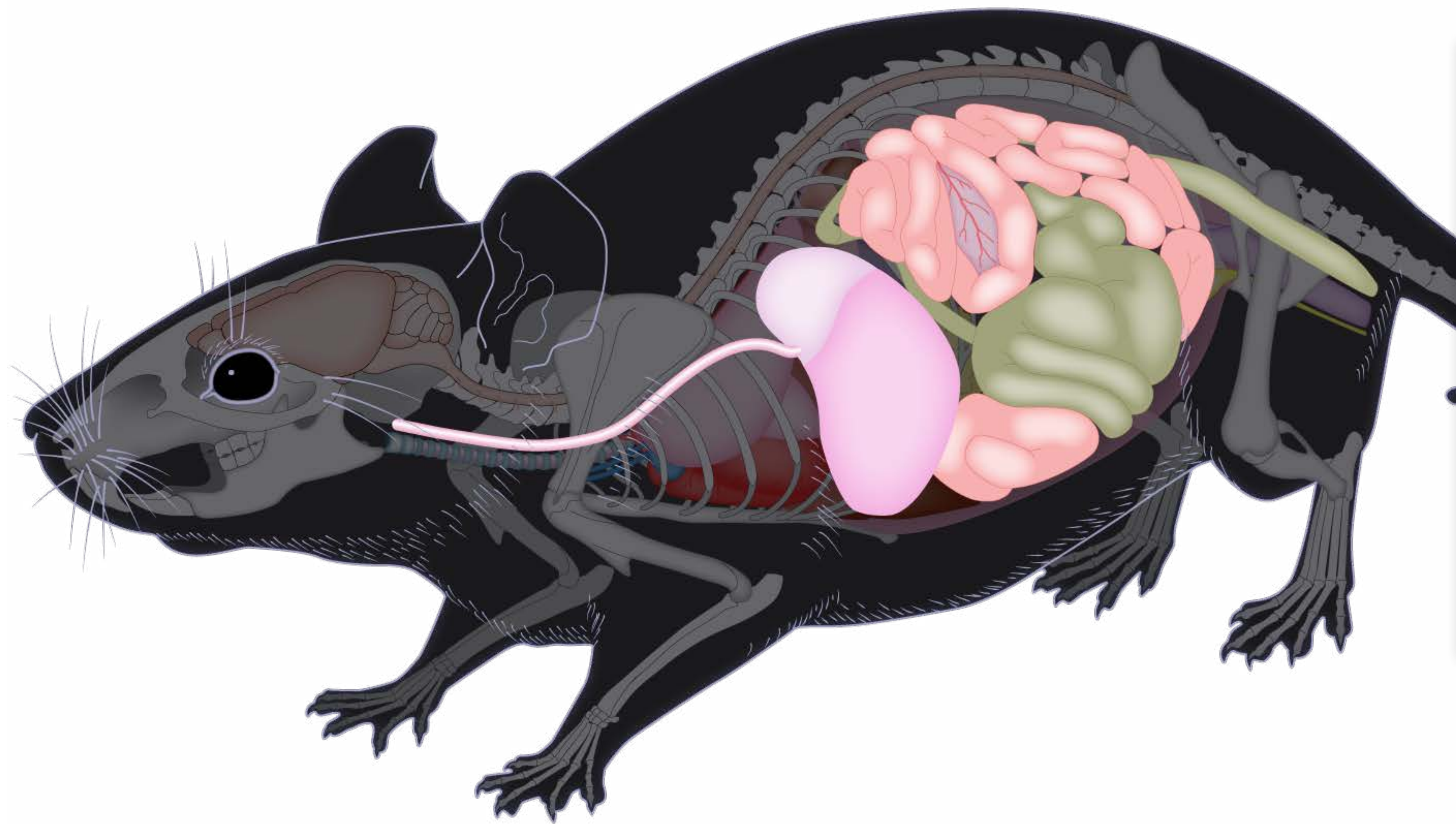
Zirconium-89

Instruments

IVIS® Imaging Platform
G8 PET/CT



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FEATURED PRODUCTS ×

Fluorescent Agents

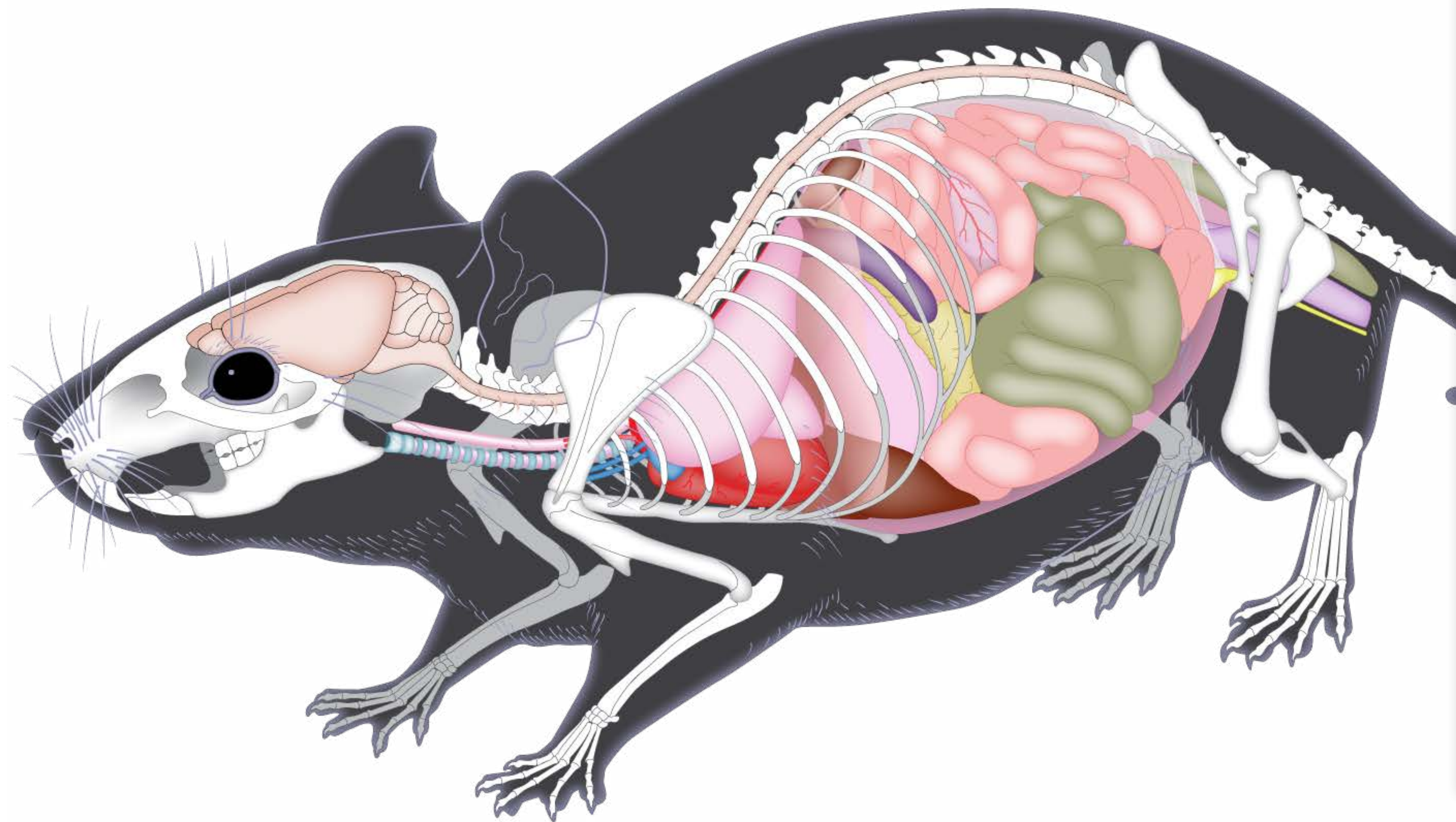
GastroSense™
AngioSense®
ProSense®
MMPsense®

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
G8 PET/CT
Quantum GX microCT



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FEATURED PRODUCTS ×

Fluorescent Agents

- MMPsense®
- Neutrophil Elastase FAST™
- ProSense®
- RediJect™ COX-2 probe

Luminescent Reagents

- XenoLight™ RediJect Chemiluminescent Inflammation Probe

Radioimaging Nuclides

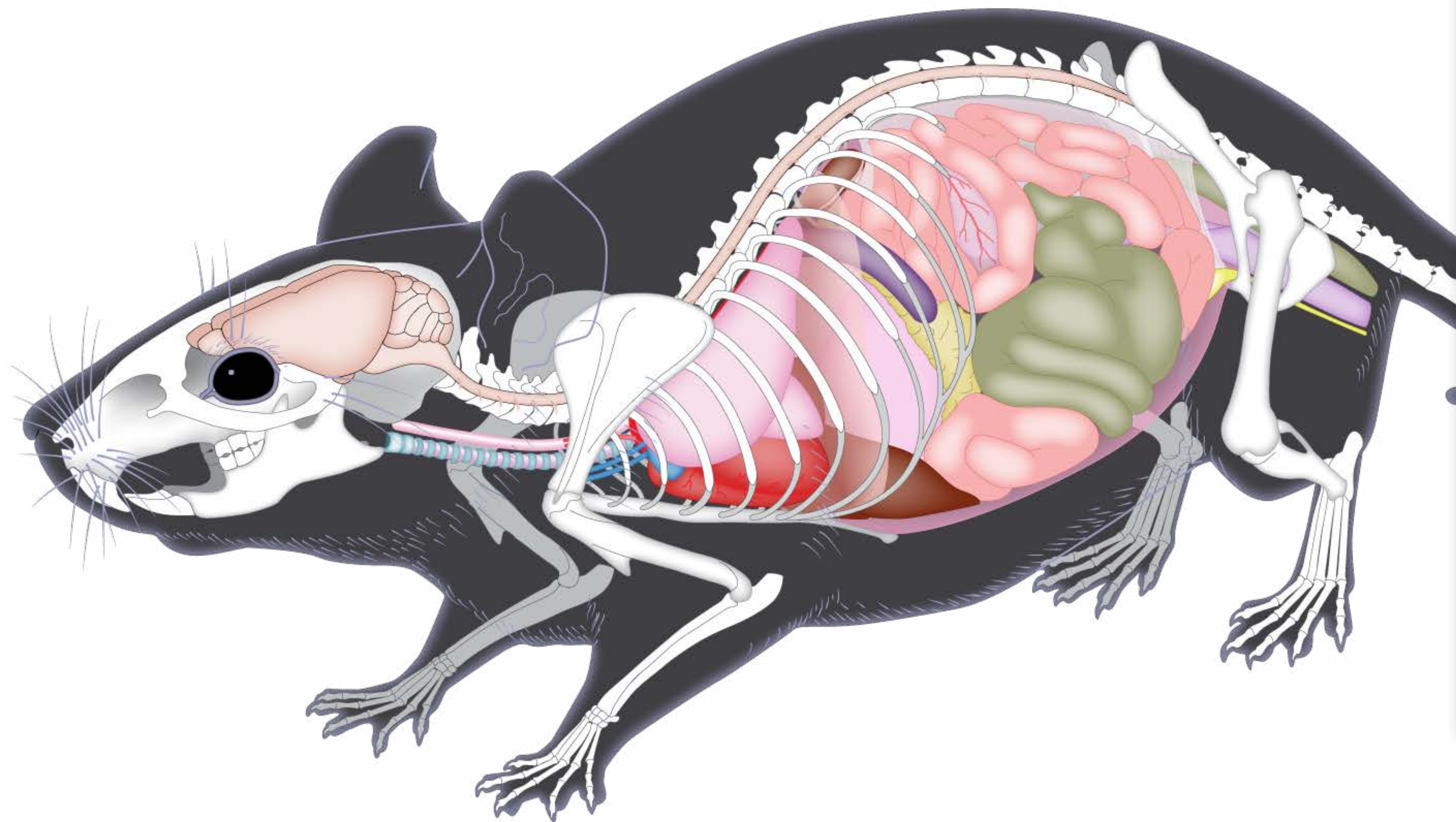
- Iodine-124
- Zirconium-89

Instruments

- IVIS® Imaging Platform
- FMT® Imaging Platform
- G8 PET/CT



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FEATURED PRODUCTS ×

Fluorescent Agents

RediJect Bacterial Detection Probe
BacteriSense™

Luminescent Reagents

Bacteria labeled with luciferase

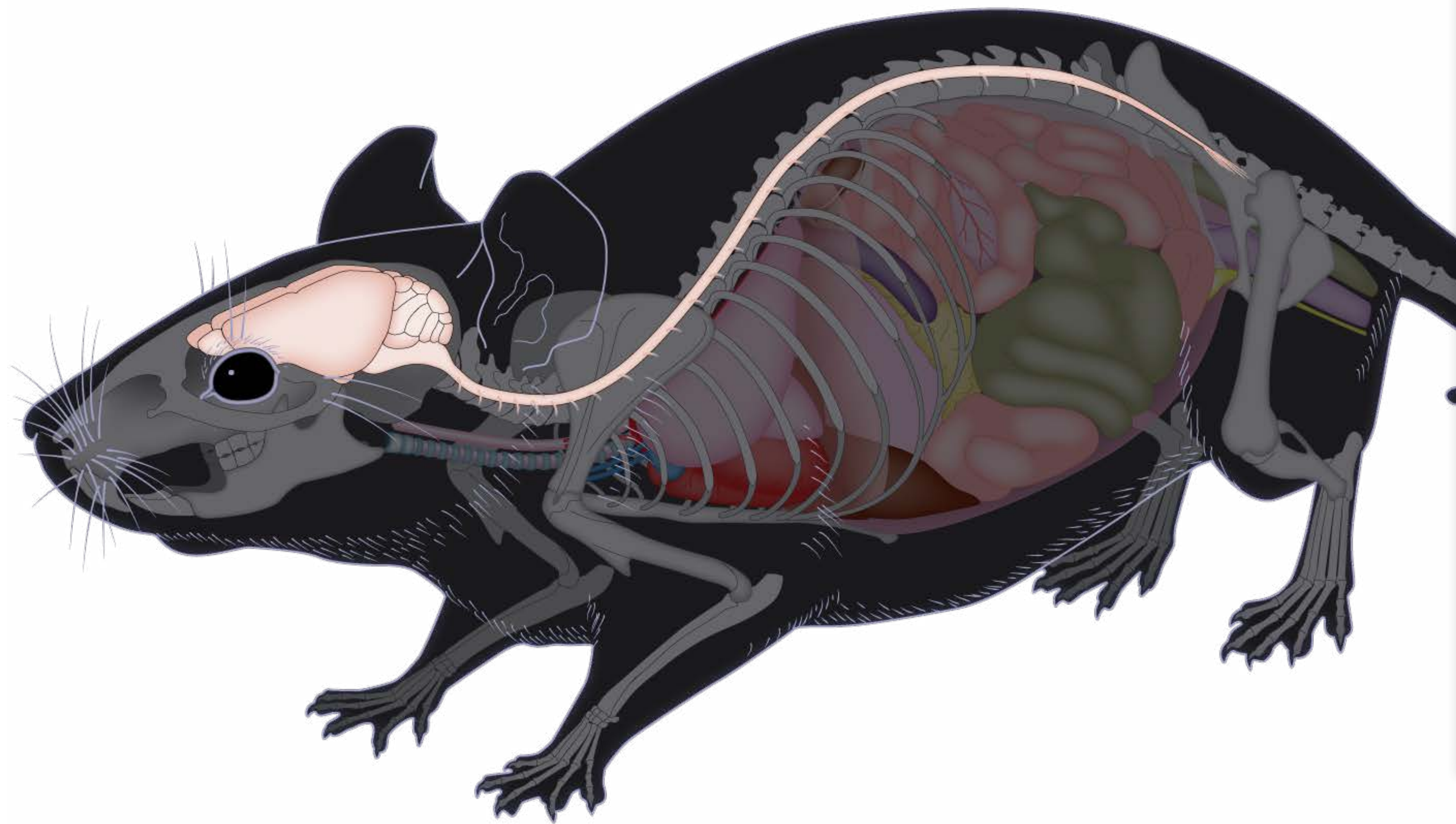
- *E. coli*
- *P. aeruginosa*
- *S. aureus*
- *L. monocytogenes*

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
G8 PET/CT



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FEATURED PRODUCTS



Fluorescent Agents

Cat B FAST
AngioSense®

Luminescent Reagents

Bioware® Brite Oncology Cell Lines
Labeled with Luciferase

- GL261 Red-FLuc
- U87 MG-Red-FLuc

Radioimaging Nuclides

Iodine-124

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
G8 PET/CT





FEATURED PRODUCTS ×

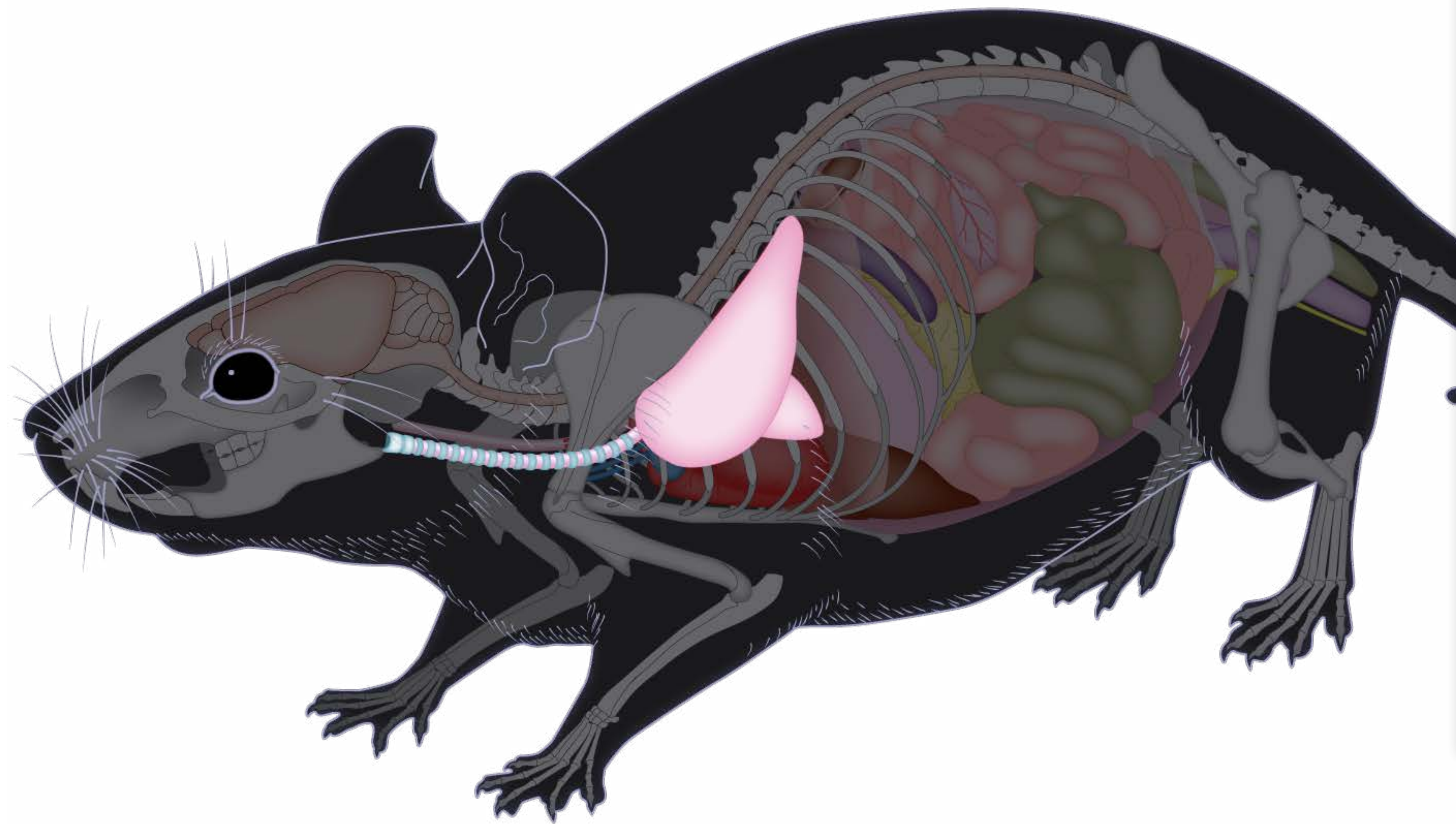
Fluorescent Agents

OsteoSense®
Cat K 680 FAST

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
G8 PET/CT
Quantum GX microCT





FEATURED PRODUCTS ×

Fluorescent Agents

Neutrophil Elastase FAST™
ProSense®
MMPsense®

Luminescent Reagents

*Bioware® Brite Oncology Cell Lines
Labeled with Luciferase*

- A549 Red-FLuc
- NCI-H460 Red-FLuc
- LL/2 Red-FLuc

Instruments

IVIS® Imaging Platform
G8 PET/CT
Quantum GX microCT



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FEATURED PRODUCTS ×

Fluorescent Agents

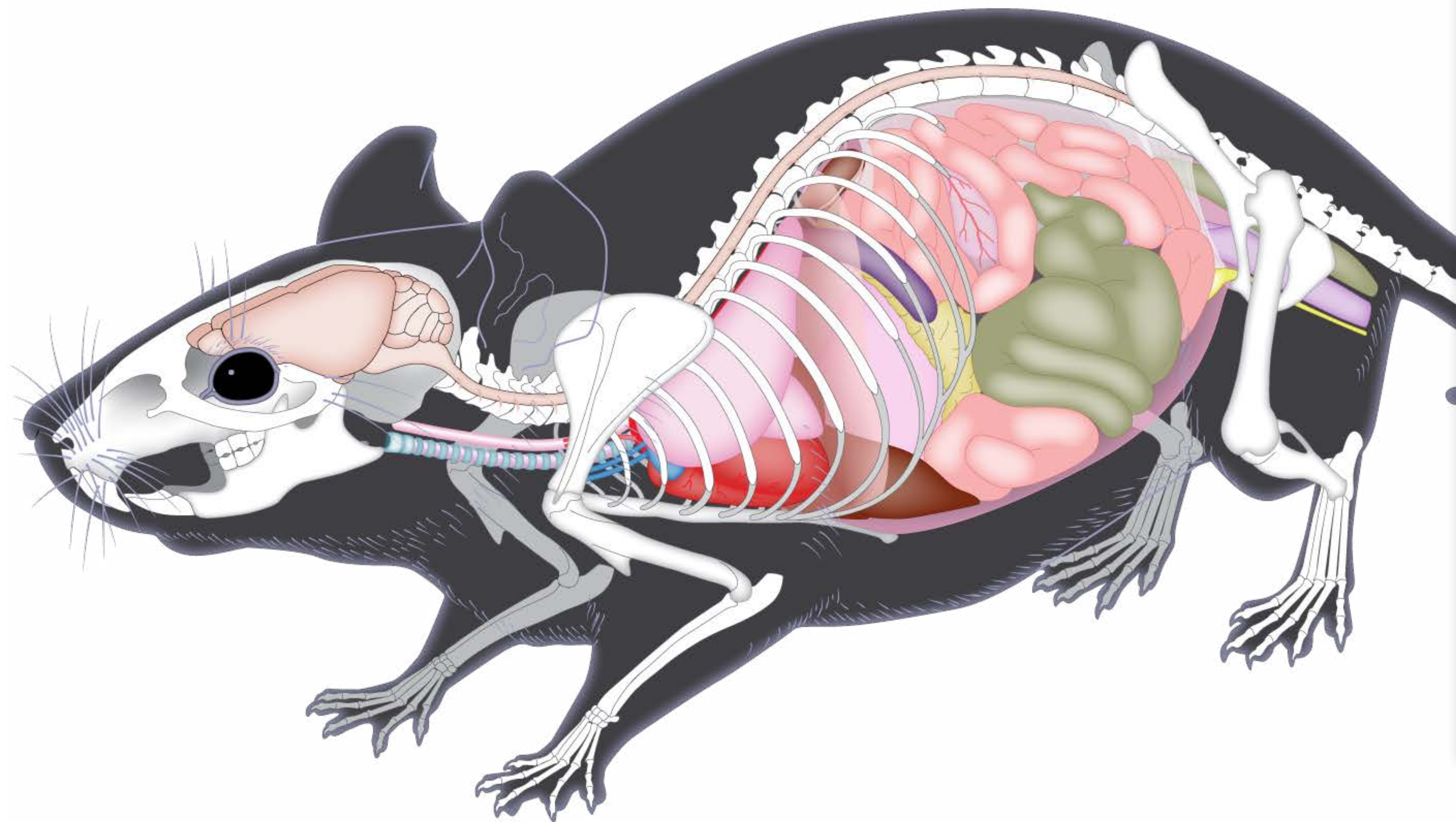
GFR-Vivo 680
MMPsense®
Annexin-Vivo 750
Transferrin-Vivo 750
GastroSense™

Instruments

IVIS® Imaging Platform
G8 PET/CT
Quantum GX microCT
FMT® Imaging Platform



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FEATURED PRODUCTS ✕

Fluorescent Agents

HypoxiSense™
AngioSense®

Luminescent Reagents

Bioware® Brite Oncology Cell Lines
Labeled with Luciferase

- HT-29-Red-FLuc
- HeLa-Red-FLuc

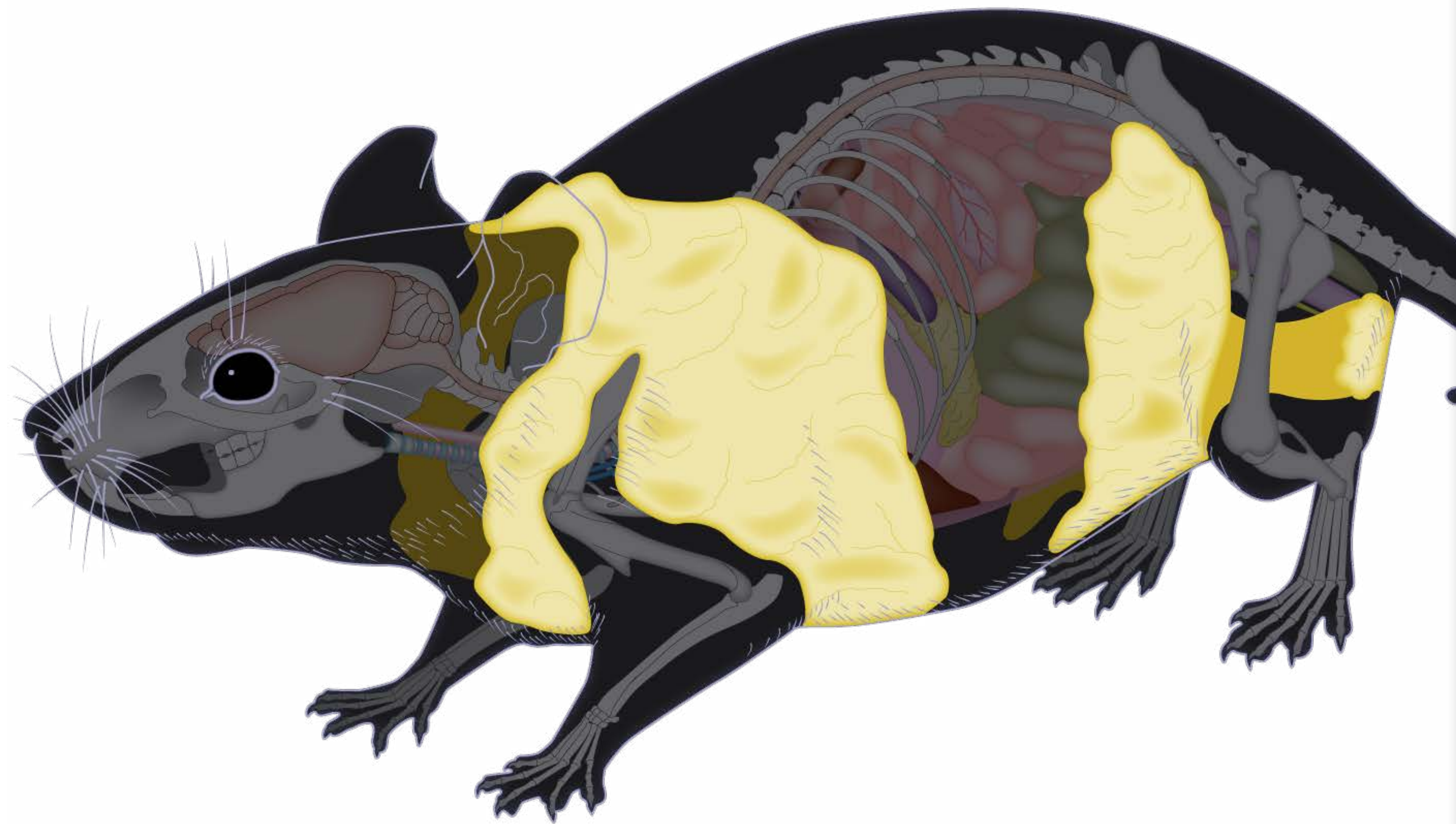
RediFect™ Lentiviral Particles
XenoLight™ D-Luciferin K+ Salt

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
G8 PET/CT



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FEATURED PRODUCTS ×

Fluorescent Agents

IntegriSense™
BombesinRSense™
ProSense®
MMPsense®

Luminescent Reagents

Bioware® Brite Oncology Cell Lines
Labeled with Luciferase

- 4T1-Red-FLuc
- MCF7 Red-FLuc

Radioimaging Nuclides

Iodine-124
Zirconium-89
Yttrium-90
Lutetium-177

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
G8 PET/CT
Quantum GX microCT
Solaris™

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FEATURED PRODUCTS



Fluorescent Agents

- PSA FAST™
- ProSense®
- FolateRSense™
- BombesinRSense™

Luminescent Reagents

Bioware® Brite Oncology Cell Lines
Labeled with Luciferase

- LNCaP Red-FLuc
- PC3 Red-FLuc

- RediFect™ Lentiviral Particles
- XenoLight™ D-Luciferin K+ Salt

Radioimaging Nuclides

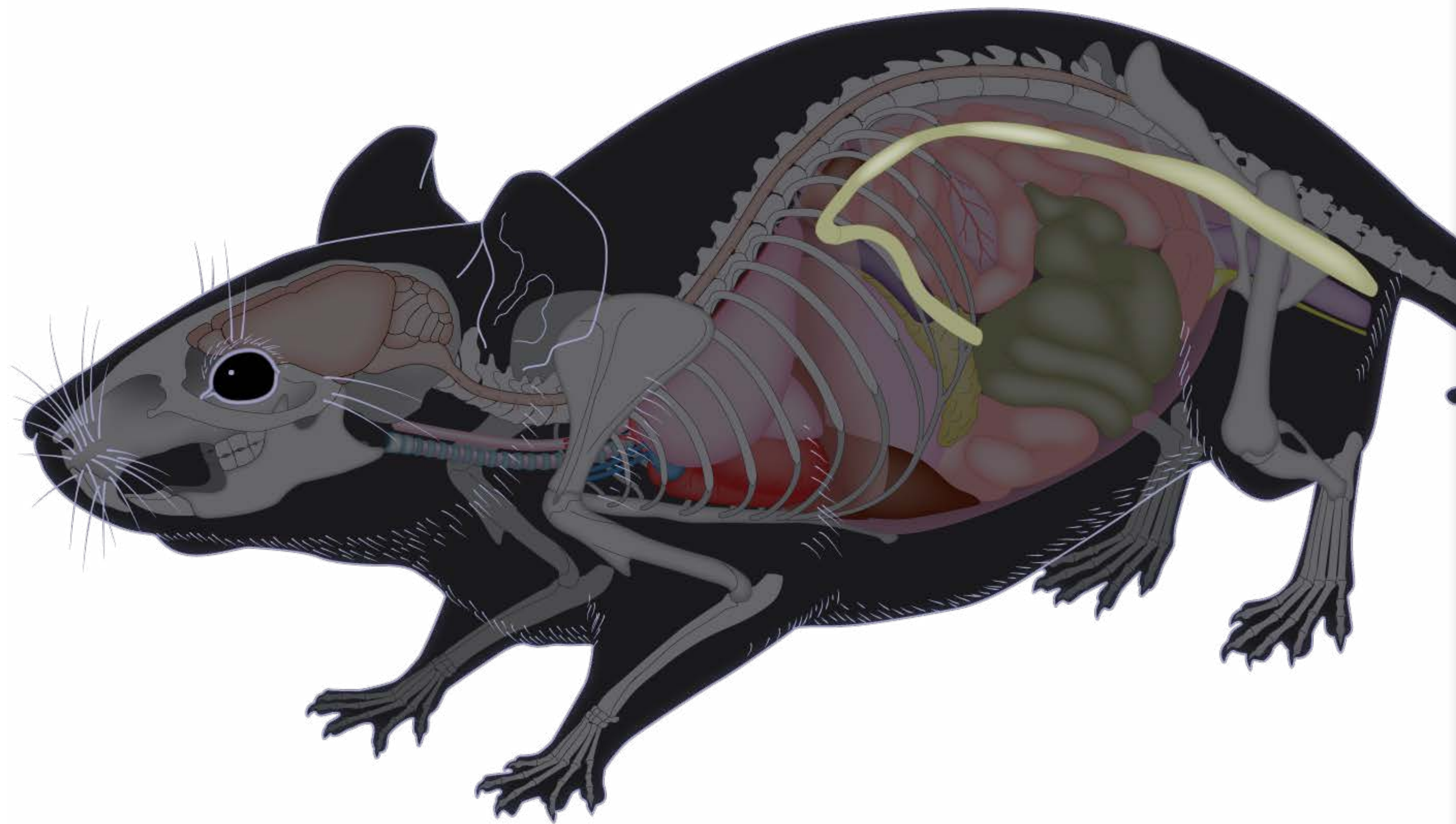
- | | |
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| Iodine-124 | Yttrium-90 |
| Zirconium-89 | Lutetium-177 |

Instruments

- IVIS® Imaging Platform
- FMT® Imaging Platform
- G8 PET/CT
- Quantum GX microCT
- Solaris™

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FEATURED PRODUCTS



Fluorescent Agents

- ProSense®
- MMPsense®
- Transferrin-Vivo™
- BombesinRSense™

Luminescent Reagents

Bioware® Brite Oncology Cell Lines
Labeled with Luciferase

- Colo205 Red-FLuc
- HCT116 Red-FLuc
- HT29 Red-FLuc

- RediFect™ Lentiviral Particles
- XenoLight™ D-Luciferin K+ Salt

Radioimaging Nuclides

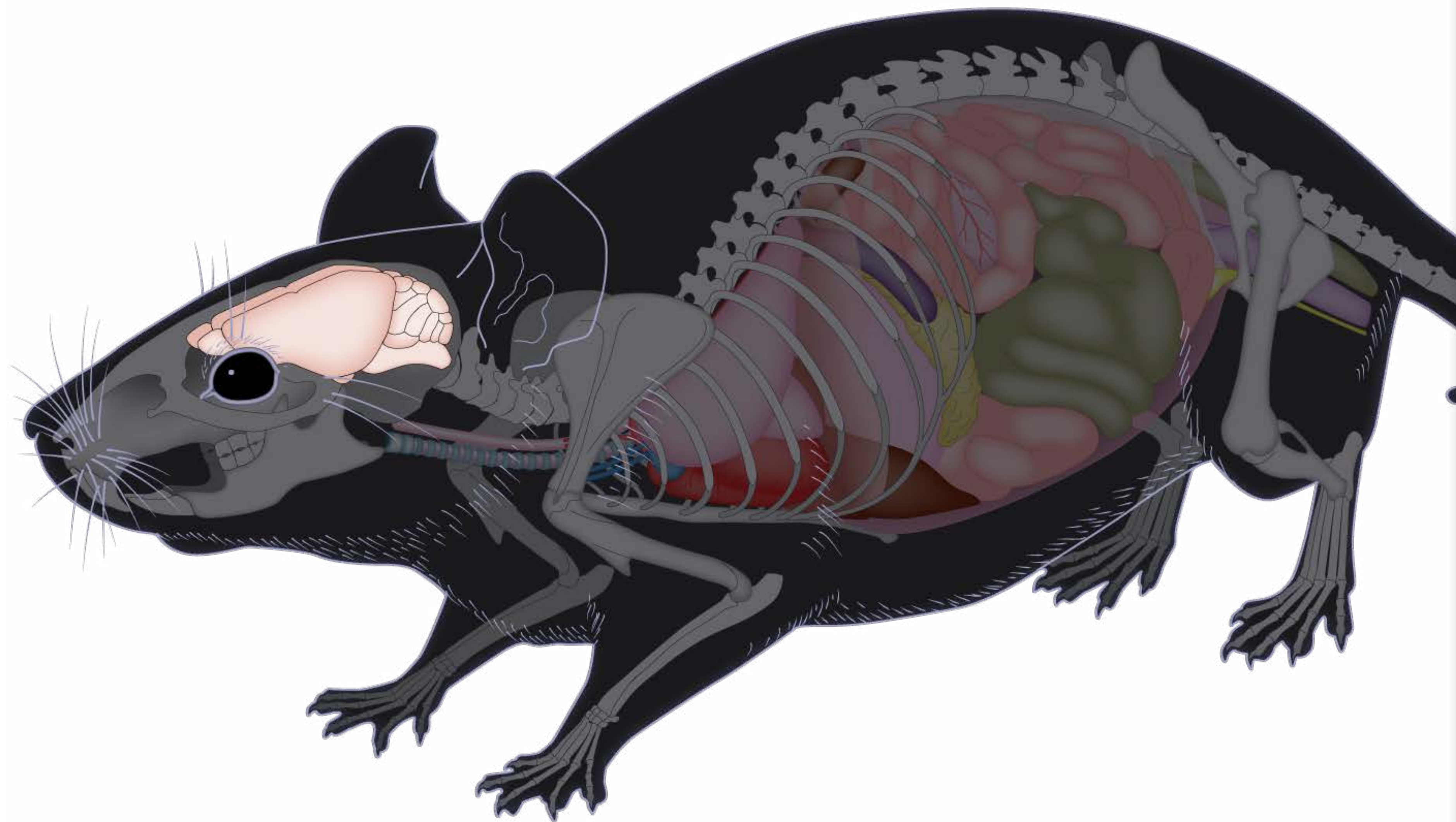
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| Iodine-124 | Yttrium-90 |
| Zirconium-89 | Lutetium-177 |

Instruments

- IVIS® Imaging Platform
- FMT® Imaging Platform
- G8 PET/CT
- Solaris™

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FEATURED PRODUCTS ✕

Fluorescent Agents

ProSense®
IntegriSense™

Luminescent Reagents

Bioware® Brite Oncology Cell
Lines Labeled with Luciferase

- GL261 Red-FLuc
- U87 MG-Red-FLuc

RediFect™ Lentiviral Particles
XenoLight™ D-Luciferin K+ Salt

Radioimaging Nuclides

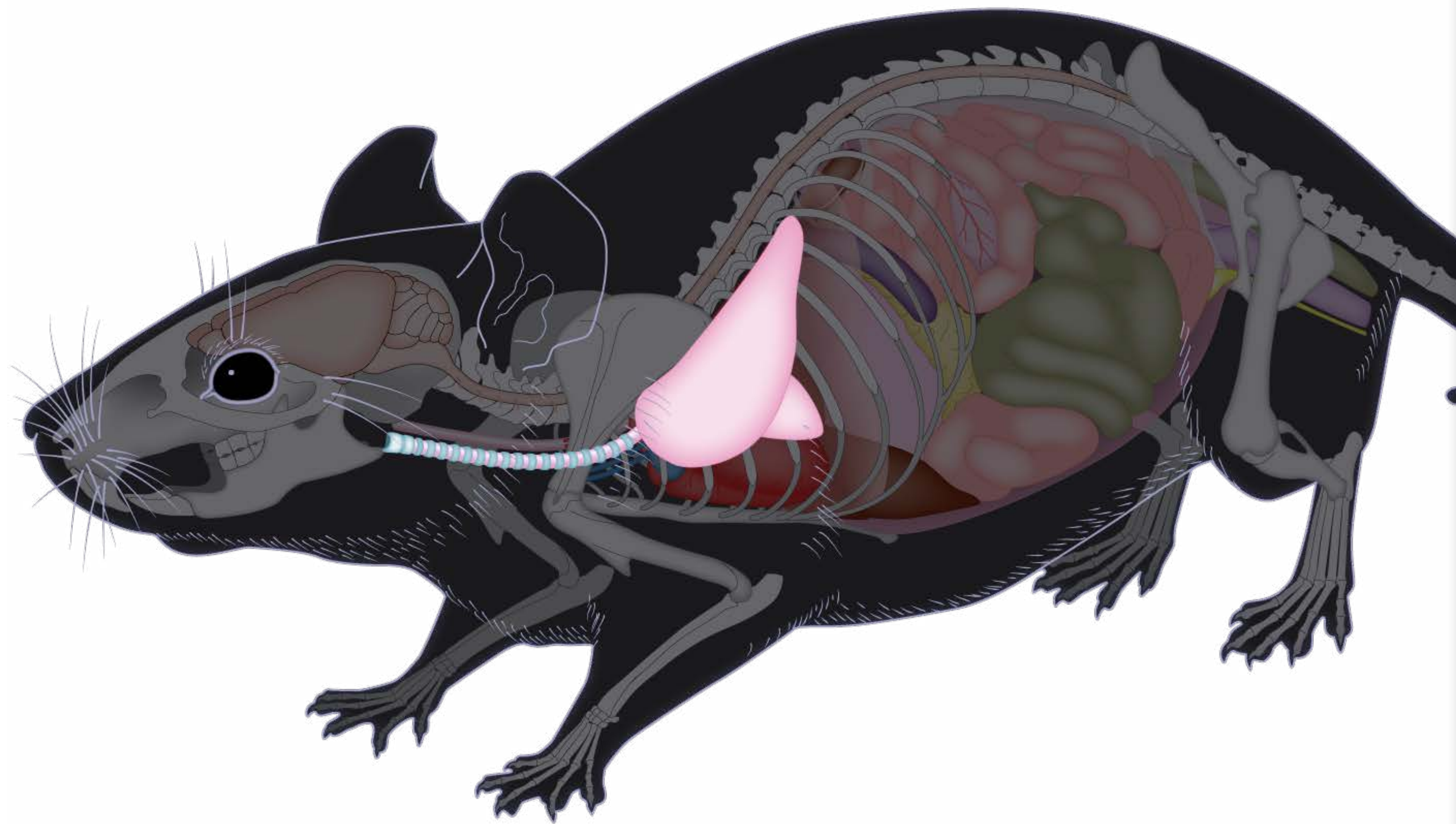
Iodine-124	Yttrium-90
Zirconium-89	Lutetium-177

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
G8 PET/CT
Solaris™



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FEATURED PRODUCTS ×

Fluorescent Agents

ProSense®
AngioSense®
MMPsense®

Luminescent Reagents

Bioware® Brite Oncology Cell Lines Labeled with Luciferase

- A549 Red-FLuc
- NCI-H460 Red-FLuc
- LL/2 Red-FLuc

RediFect™ Lentiviral Particles
XenoLight™ D-Luciferin K+ Salt

Radioimaging Nuclides

Iodine-124 Yttrium-90
Zirconium-89 Lutetium-177

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
G8 PET/CT
Solaris™

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