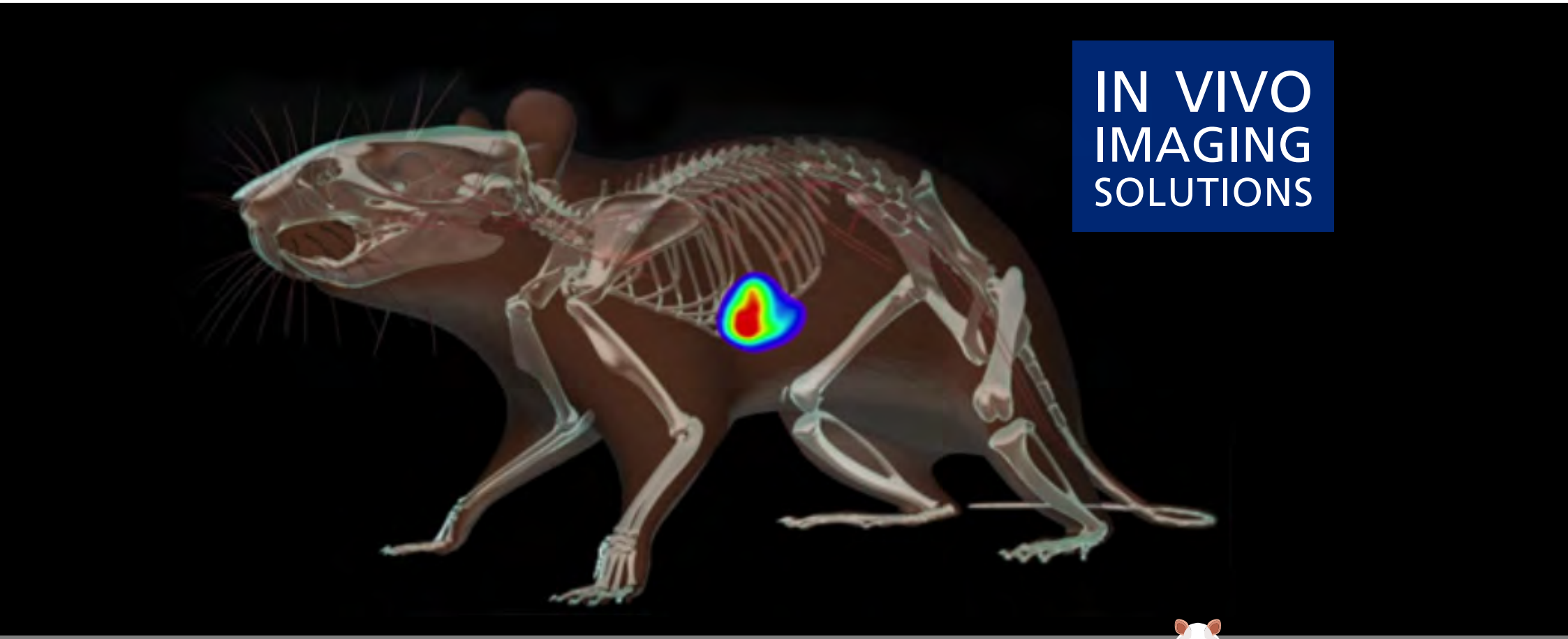
PerkinElmer



IN VIVO IMAGING SOLUTIONS

INTERACTIVE PRODUCT SELECTOR »

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 thousands of 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 and microCT imaging systems

Support
Service & Application Expertise

In Vivo Imaging Reagents

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

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

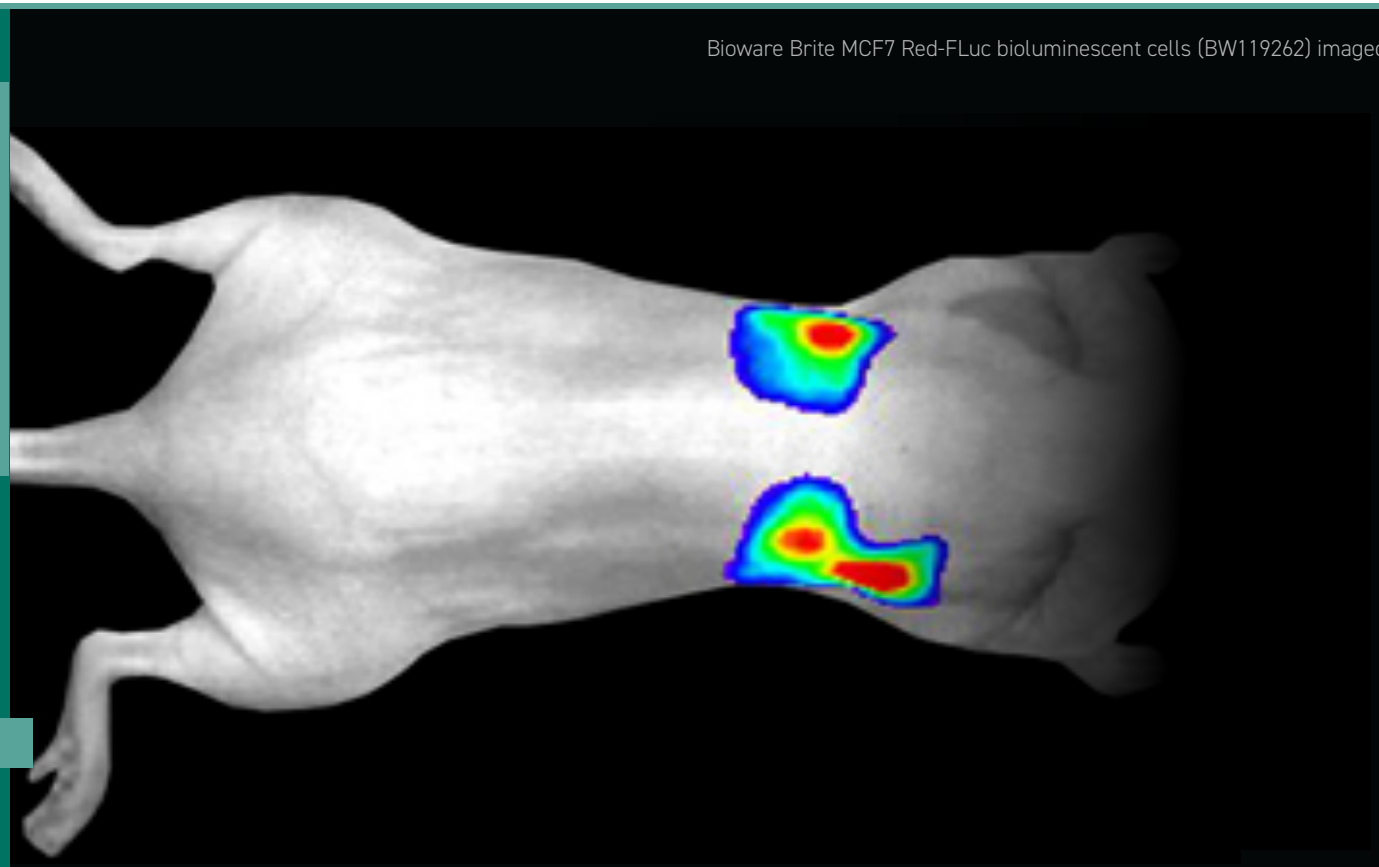
- Bioluminescent Reagents »
- Fluorescent Reagents »
- Radioimaging Nuclides »

IN VIVO IMAGING REAGENTS

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



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

Bioluminescent Reagents

Fluorescent Reagents »

Radioimaging Nuclides »

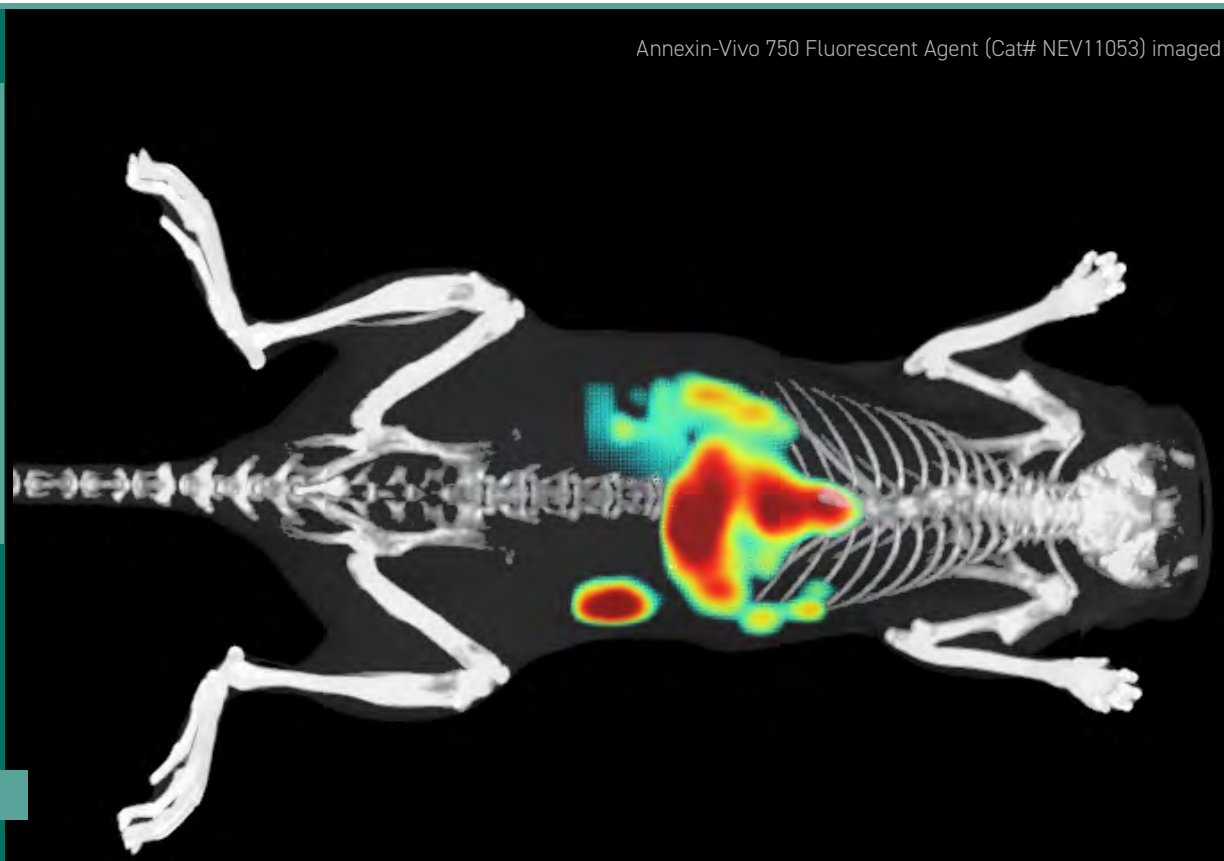
IN VIVO IMAGING REAGENTS

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

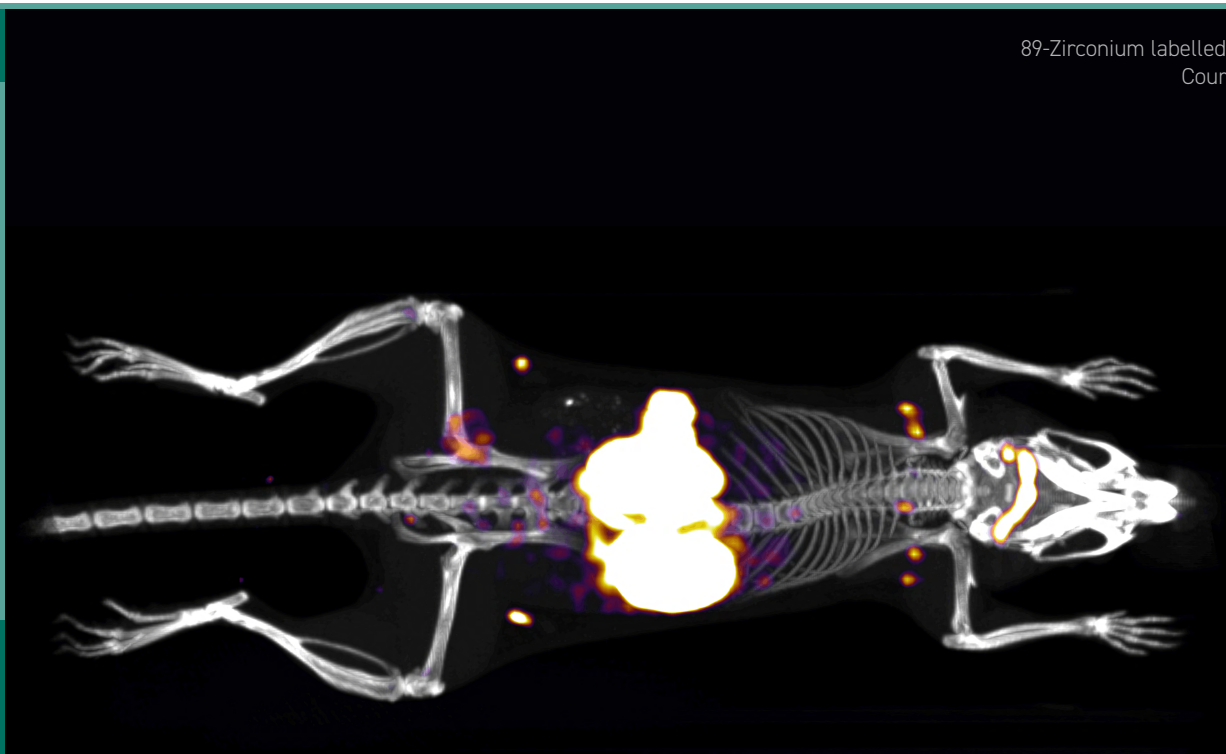
IN VIVO IMAGING REAGENTS

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
- Chromium-51
- Phosphorus-32
- Iodine-124
- Iodine-131

Bioluminescent Reagents »
Fluorescent Reagents »
Radioimaging Nuclides



89-Zirconium labelled peptide imaged using PET.
Courtesy: Richard Tavare, UCLA

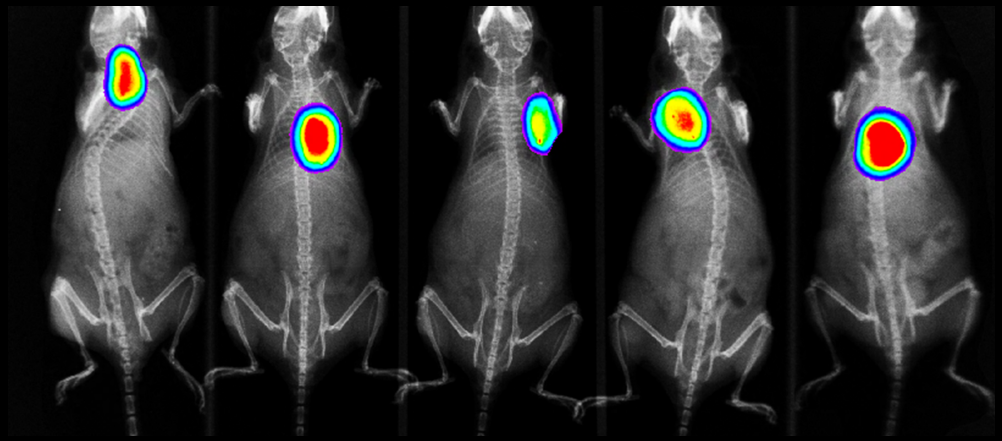
In Vivo Imaging Systems

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.

IVIS Lumina Series Benchtop
2D Optical Systems

IVIS Spectrum Series
2D & 3D Optical
Tomography Systems

Quantum GX2 microCT System



Optical Imaging Systems »

MicroCT Imaging Systems »

IN VIVO IMAGING SYSTEMS

Optical Imaging

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*

• FMT available in USA only

Optical Imaging Systems

MicroCT Imaging Systems »

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

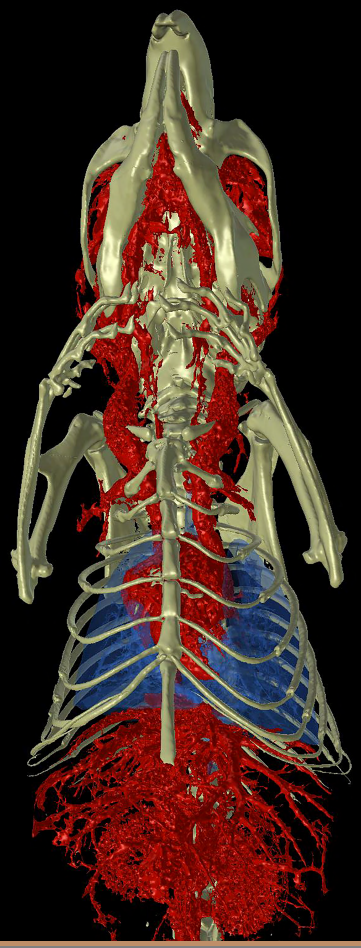
IN VIVO IMAGING SYSTEMS

MicroCT Imaging

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

- Quantum GX2 high-resolution microCT system
- IVIS SpectrumCT optical system with integrated microCT

Heart, lung and vasculature imaged using the Quantum GX2 microCT



Optical Imaging Systems »

MicroCT Imaging Systems

Home | Reagents | **Systems** | Software | Service & Support | Case Studies

INTERACTIVE PRODUCT SELECTOR »

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

* FMT available in USA only

Living Image Software »

TrueQuant Software »

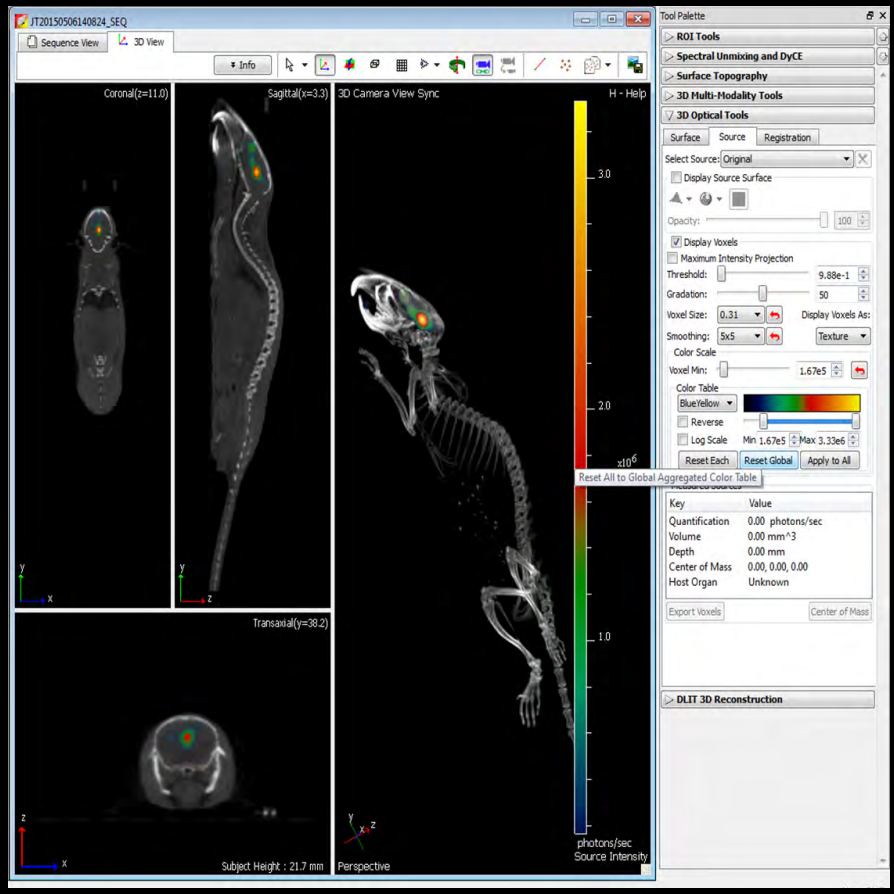
AccuCT Imaging Software »

IN VIVO 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 »

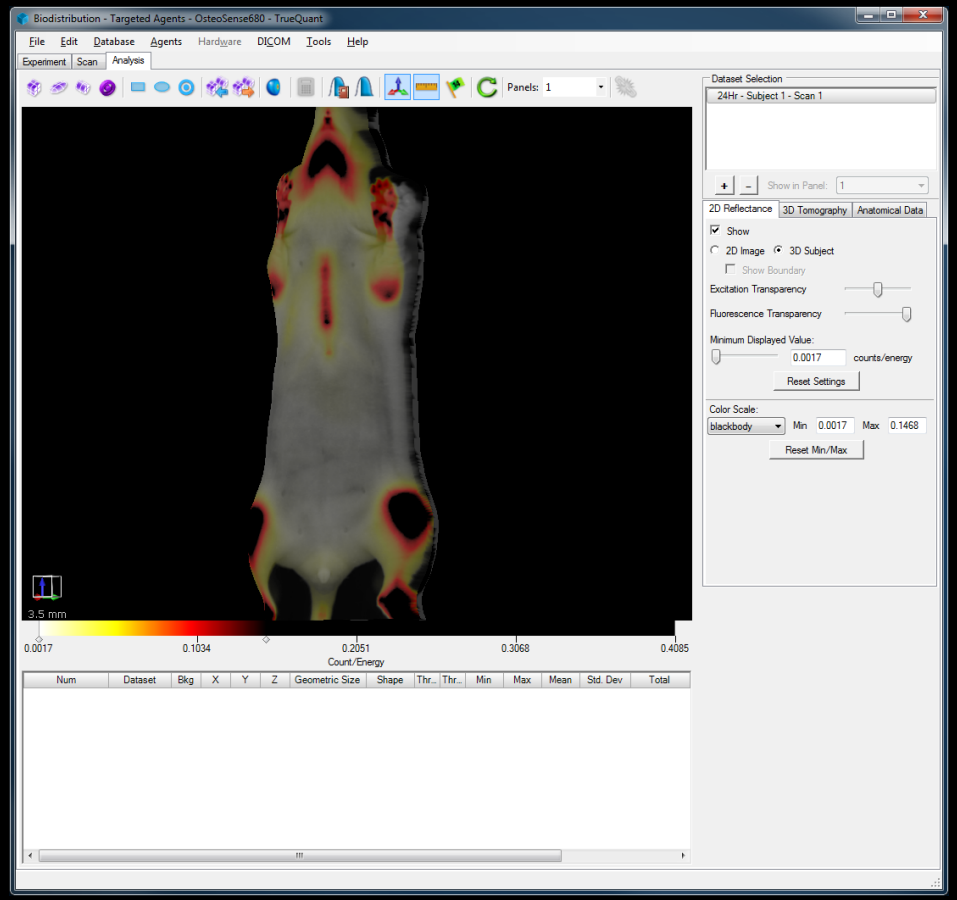
IN VIVO IMAGING SOFTWARE

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

* FMT available in USA only



Living Image Software »

TrueQuant Software

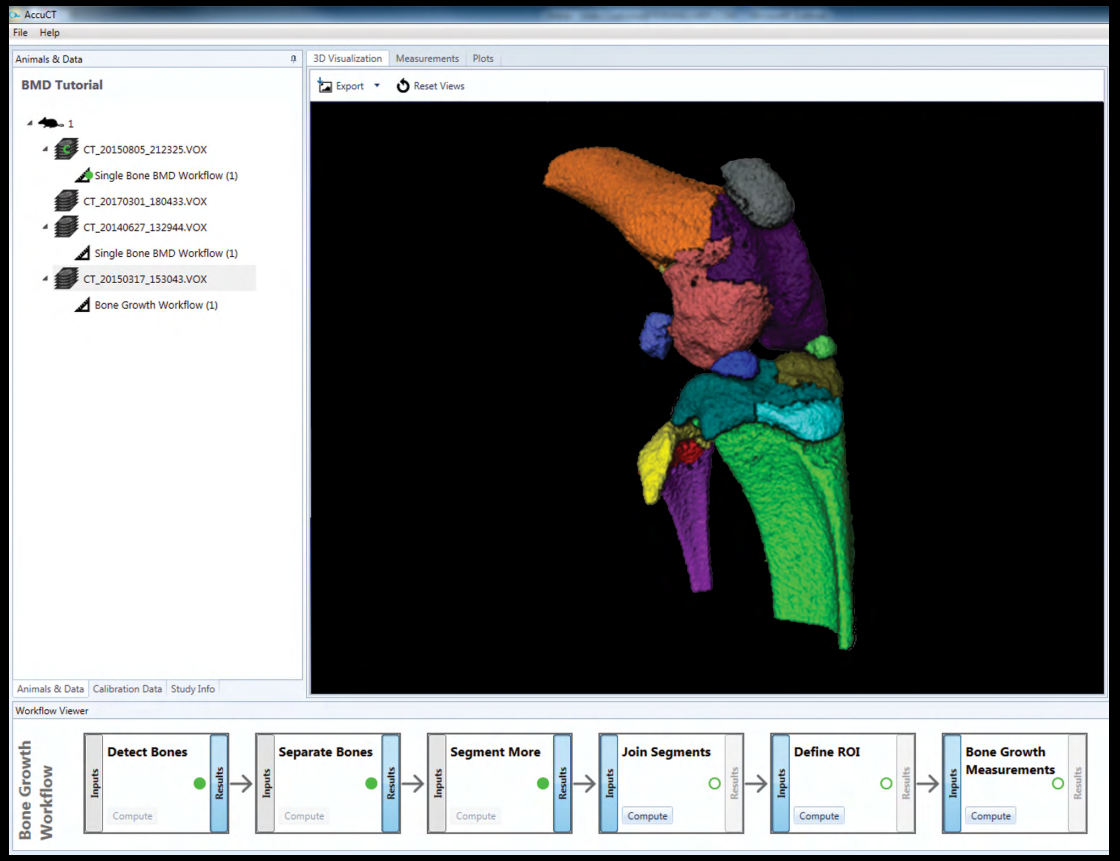
AccuCT Imaging Software »

IN VIVO 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 »

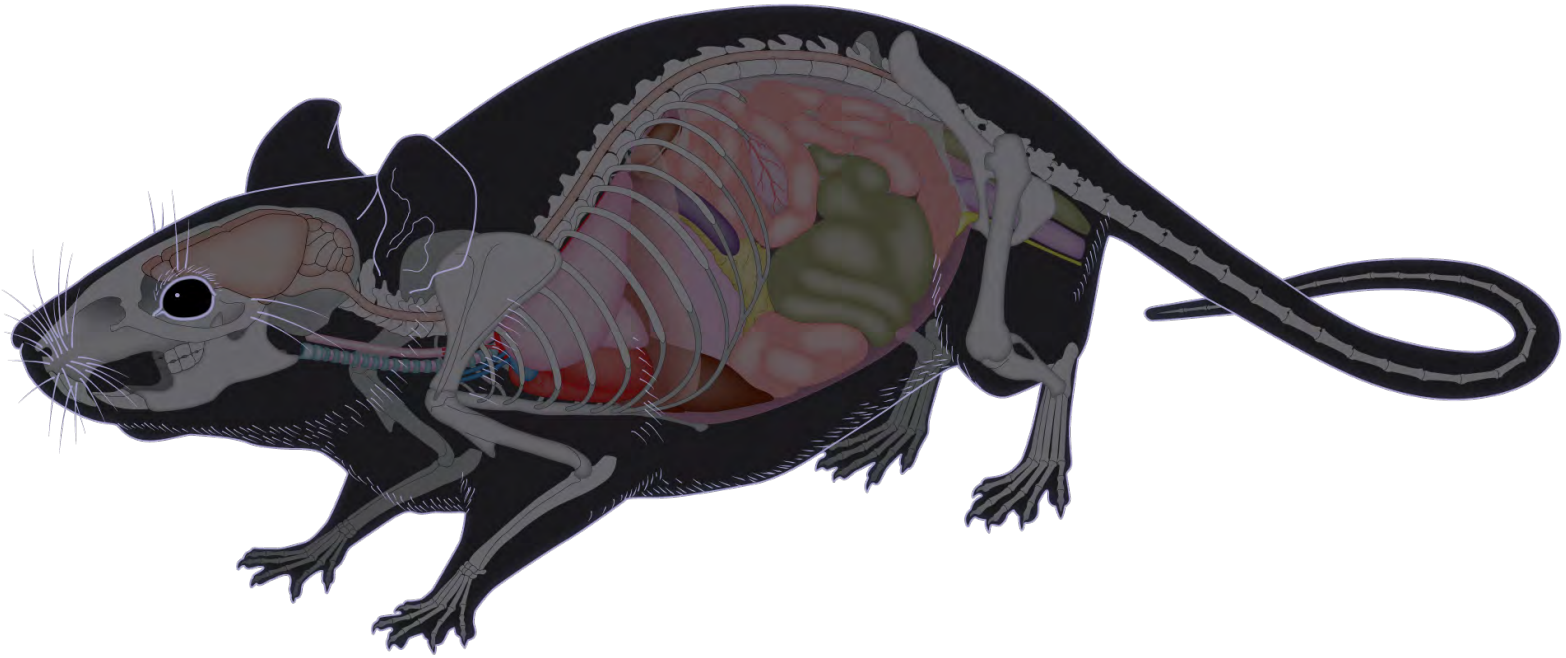
TrueQuant Software »

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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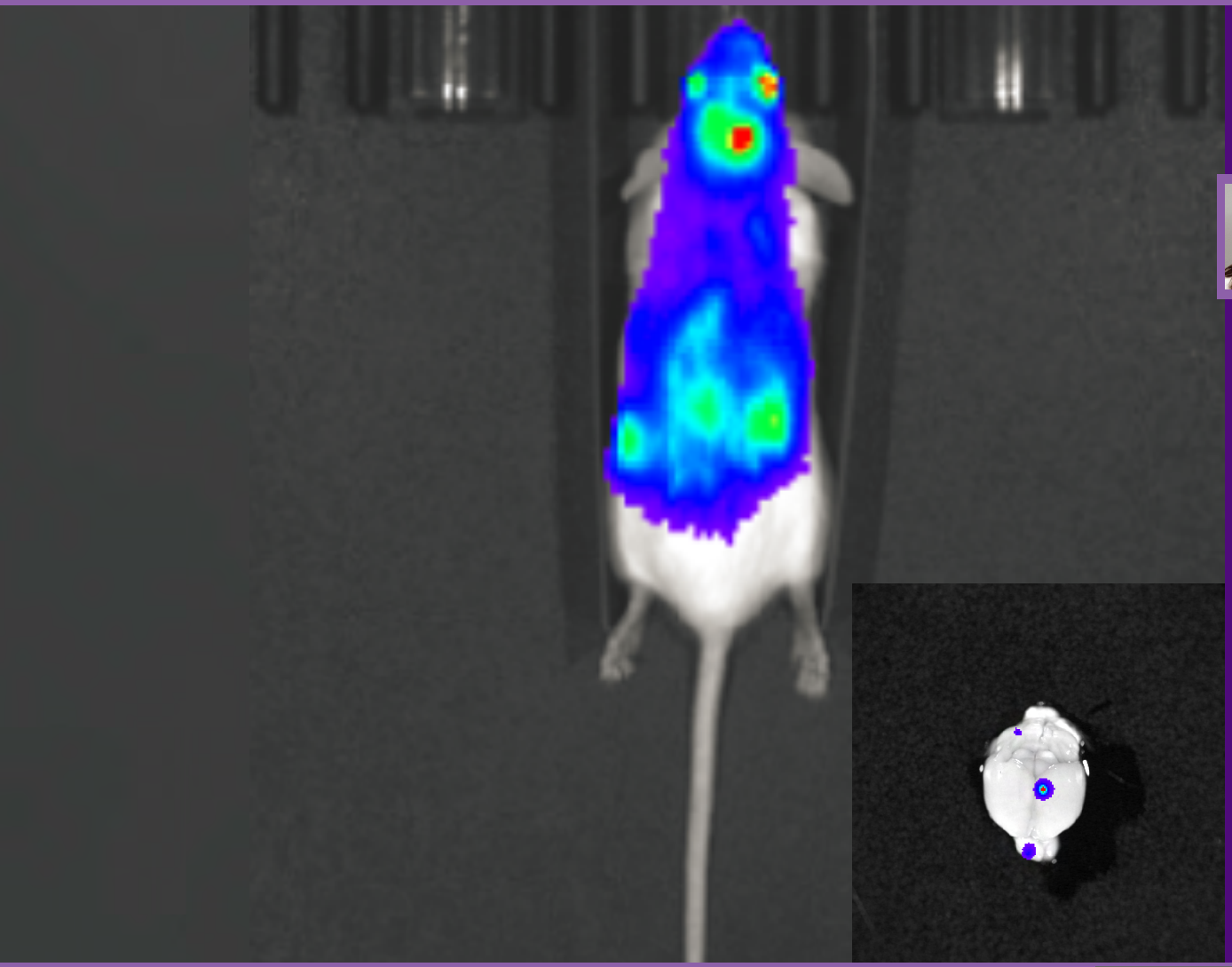


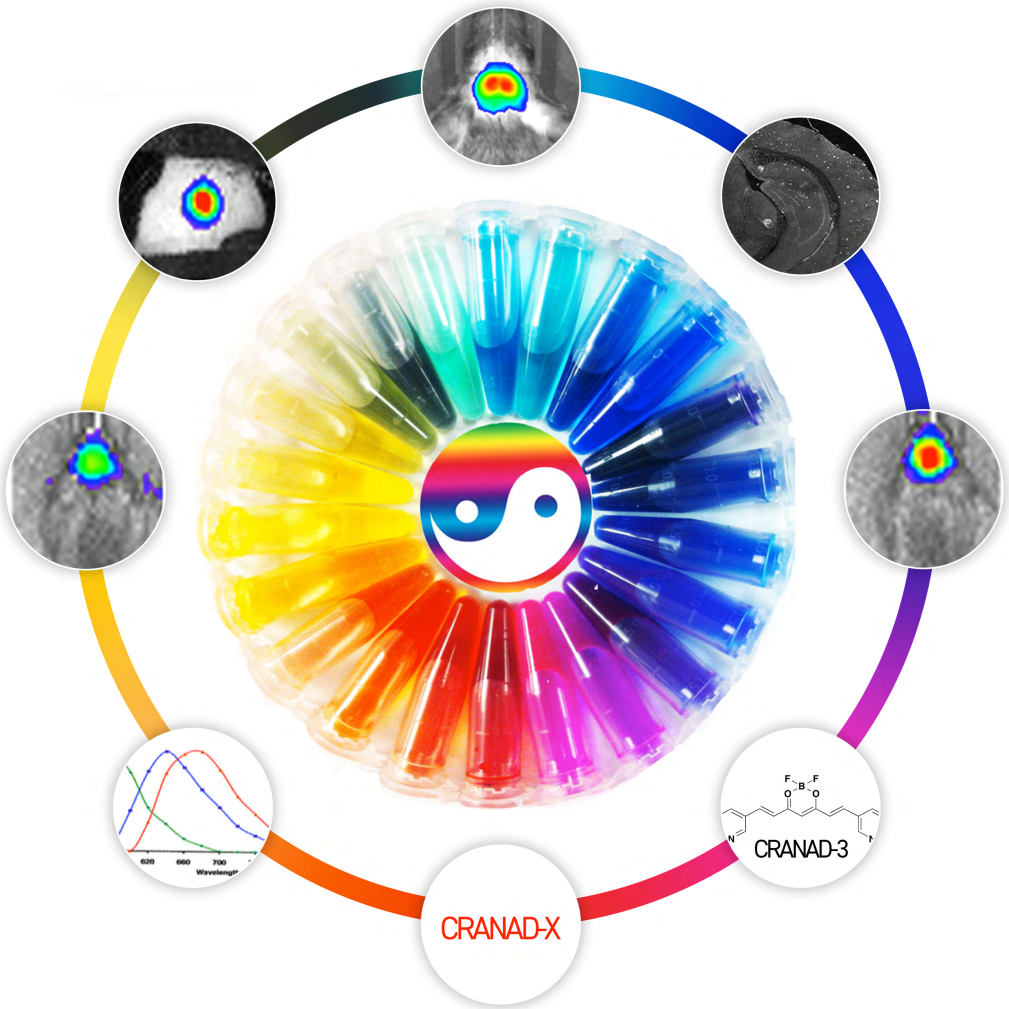
CASE STUDY:

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:

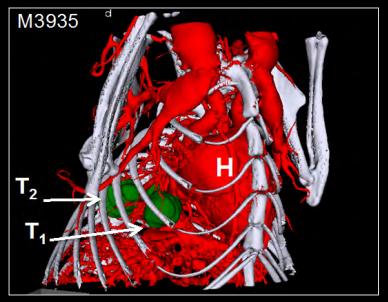
Alzheimer's Disease

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 (Aβ) species and oxidative stress (H2O2 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 Aβs of AD mouse models. Recently his group showed that NIRF ocular imaging (NIRFOI) could detect and monitor Aβs in the eyes of AD mice. NIRFOI has the potential for clinical applications in the future.

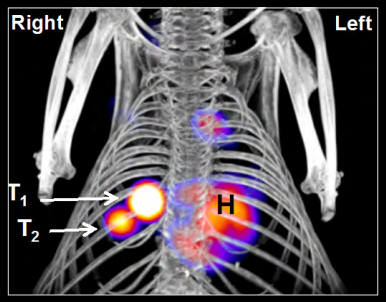
« PREVIOUS NEXT »

a CT (Quantum GX)



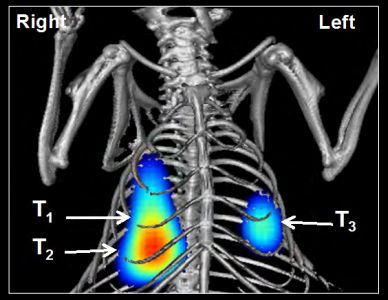
Contrast

b PET & CT (G8)



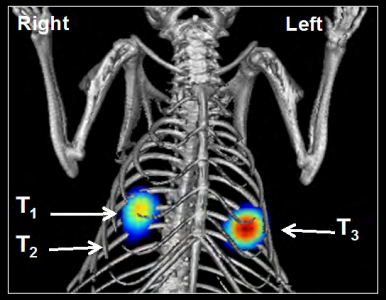
18F-FDG

c 3D BLI (IVIS Spectrum)



D-luciferin

d 3D BLI (IVIS Spectrum)



PeroxyTrace (H_2O_2)

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) ^{18}F-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.

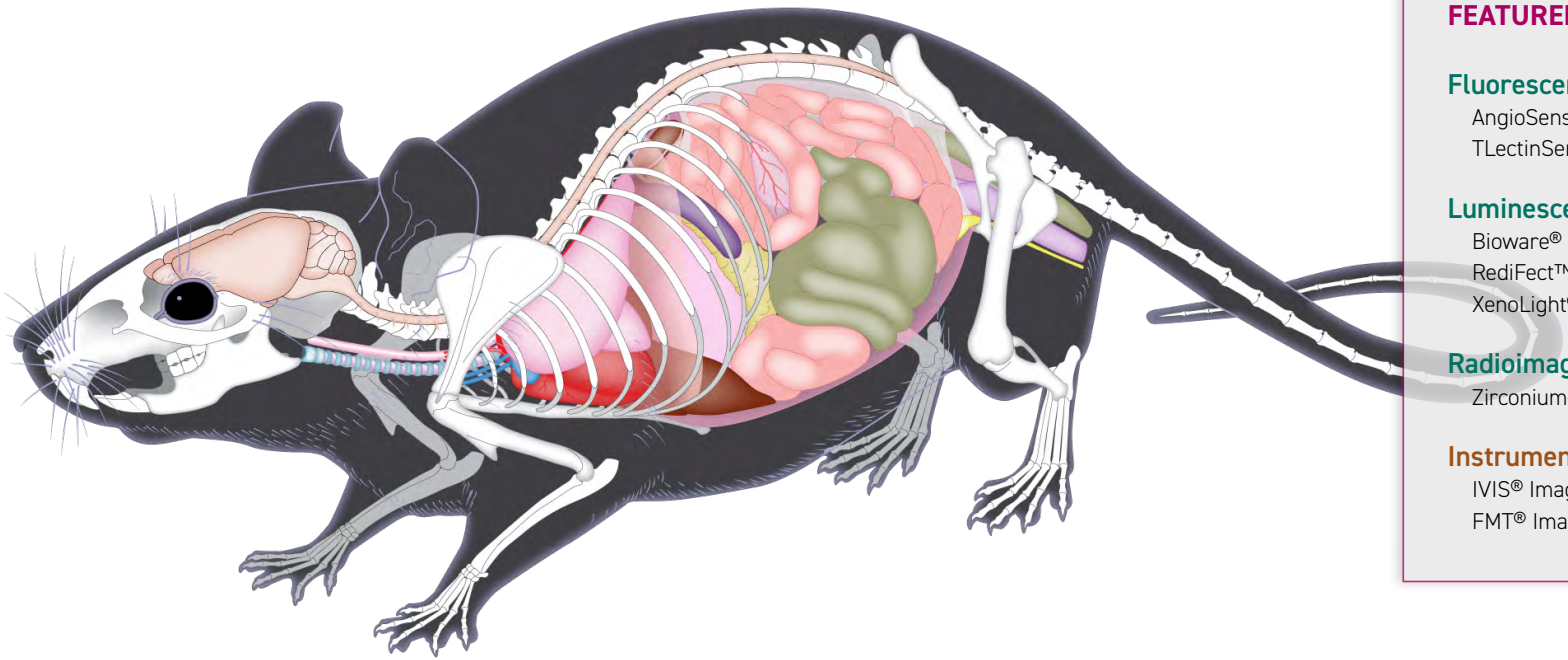
CASE STUDY:

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 ^{18}F-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**



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

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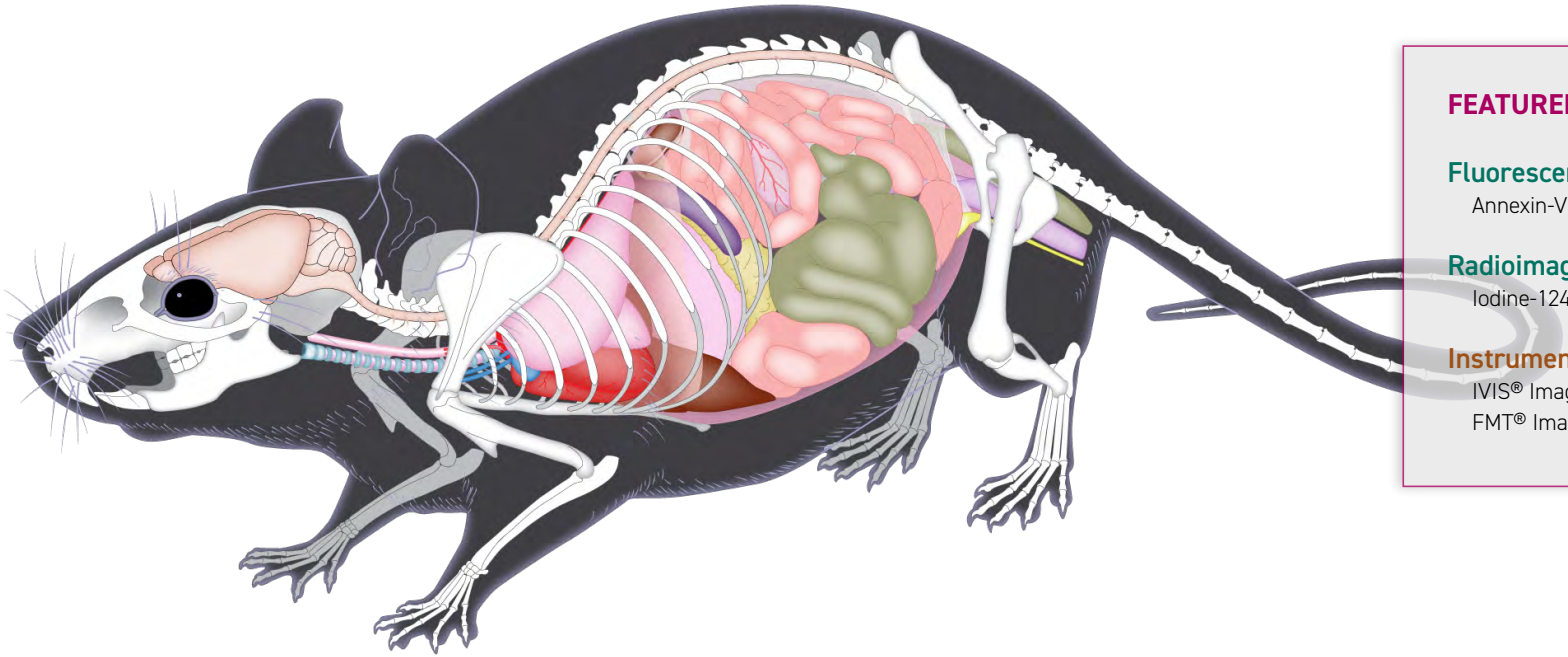

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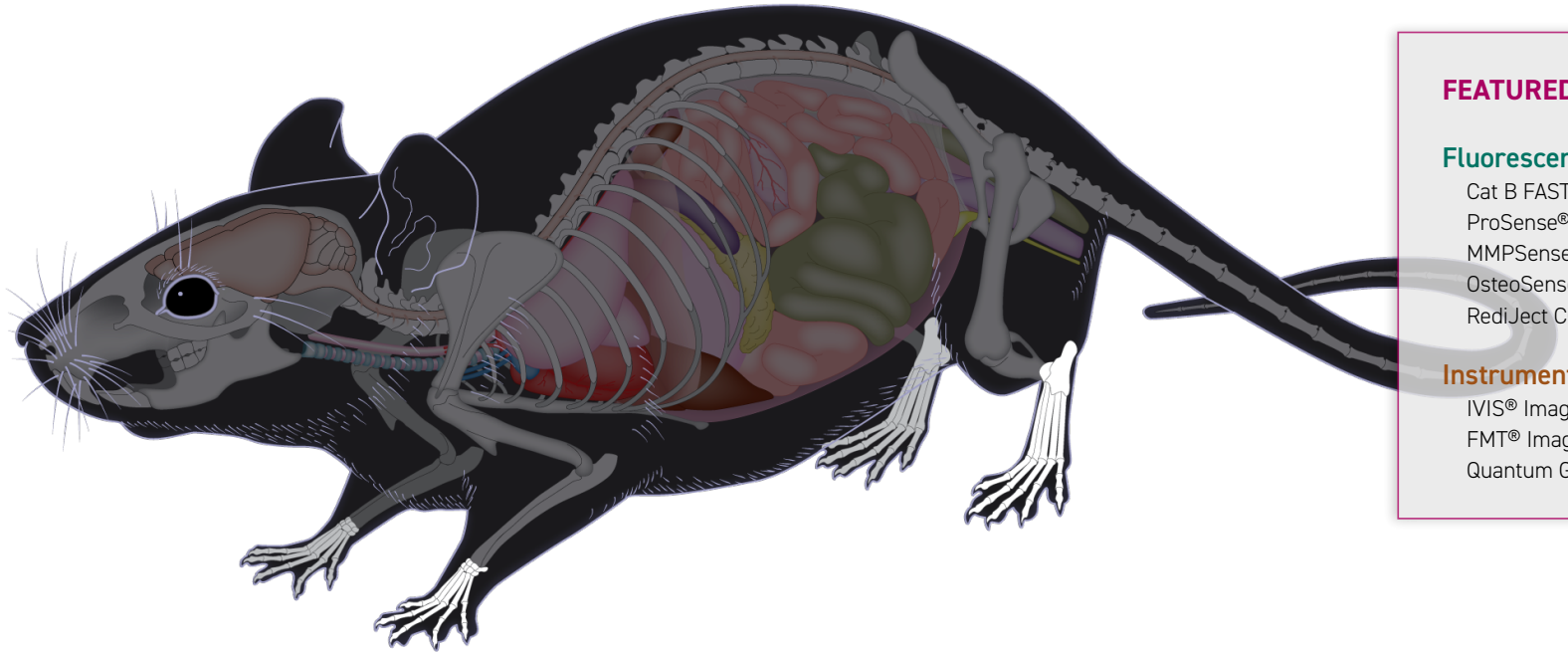
FEATURED PRODUCTS

X

Fluorescent Agents
Annexin-Vivo™

Radioimaging Nuclides
Iodine-124

Instruments
IVIS® Imaging Platform
FMT® Imaging Platform



FEATURED PRODUCTS X

Fluorescent Agents

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

Instruments

- IVIS® Imaging Platform
- FMT® Imaging Platform
- Quantum GX2 microCT

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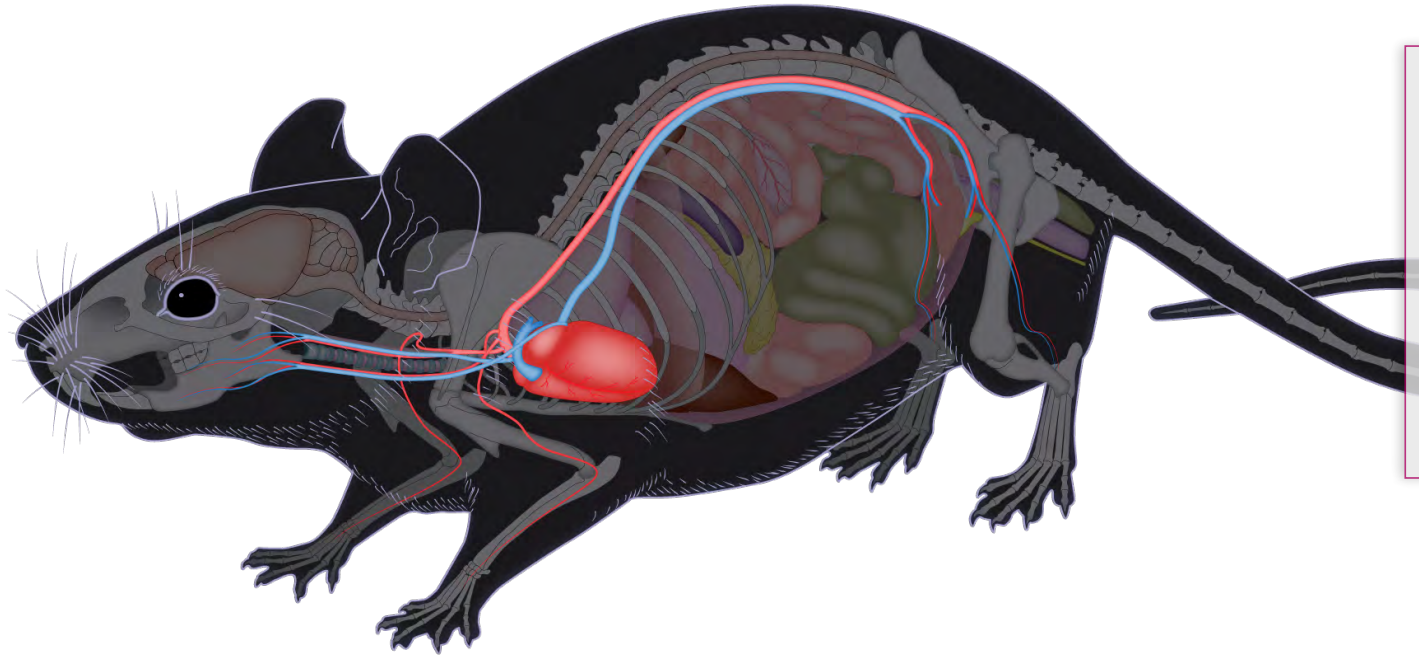

FEATURED PRODUCTS

Fluorescent Agents

- ProSense®
- IntegriSense™
- Cat B FAST

Instruments

- IVIS® Imaging Platform
- FMT® Imaging Platform
- Quantum GX2 microCT

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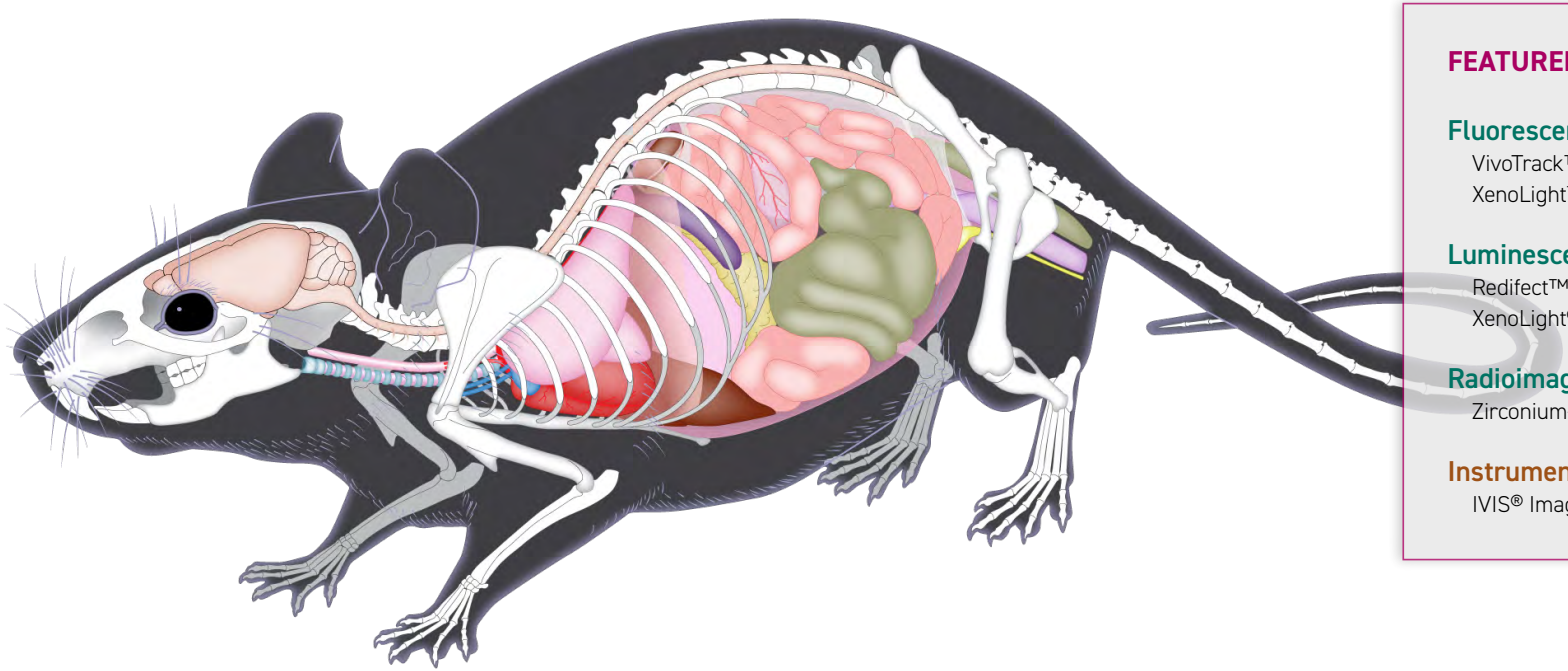

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FEATURED PRODUCTS

X

Fluorescent Agents

VivoTrack™
XenoLight™ DiR Fluorescent Dye

Luminescent Reagents

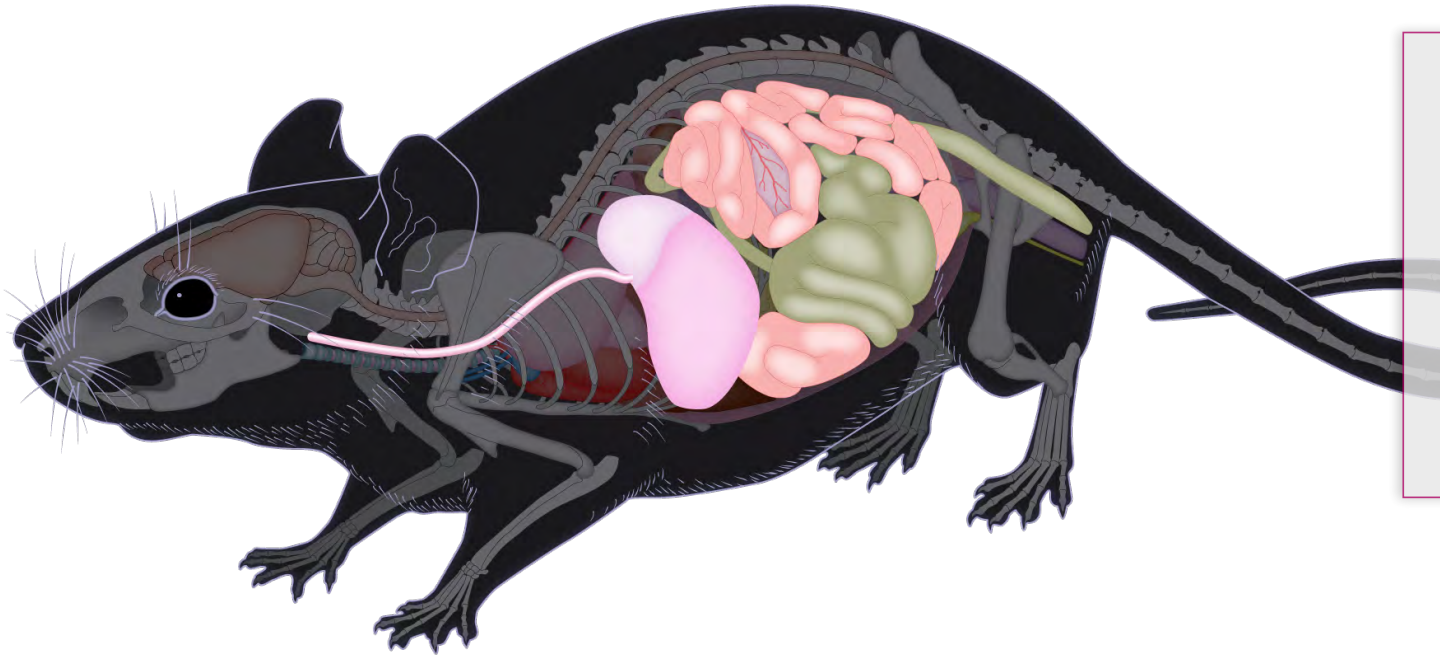
Redifect™ Lentiviral Particles
XenoLight® D-Luciferin K+ Salt

Radioimaging Nuclides

Zirconium-89

Instruments

IVIS® Imaging Platform



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FEATURED PRODUCTS

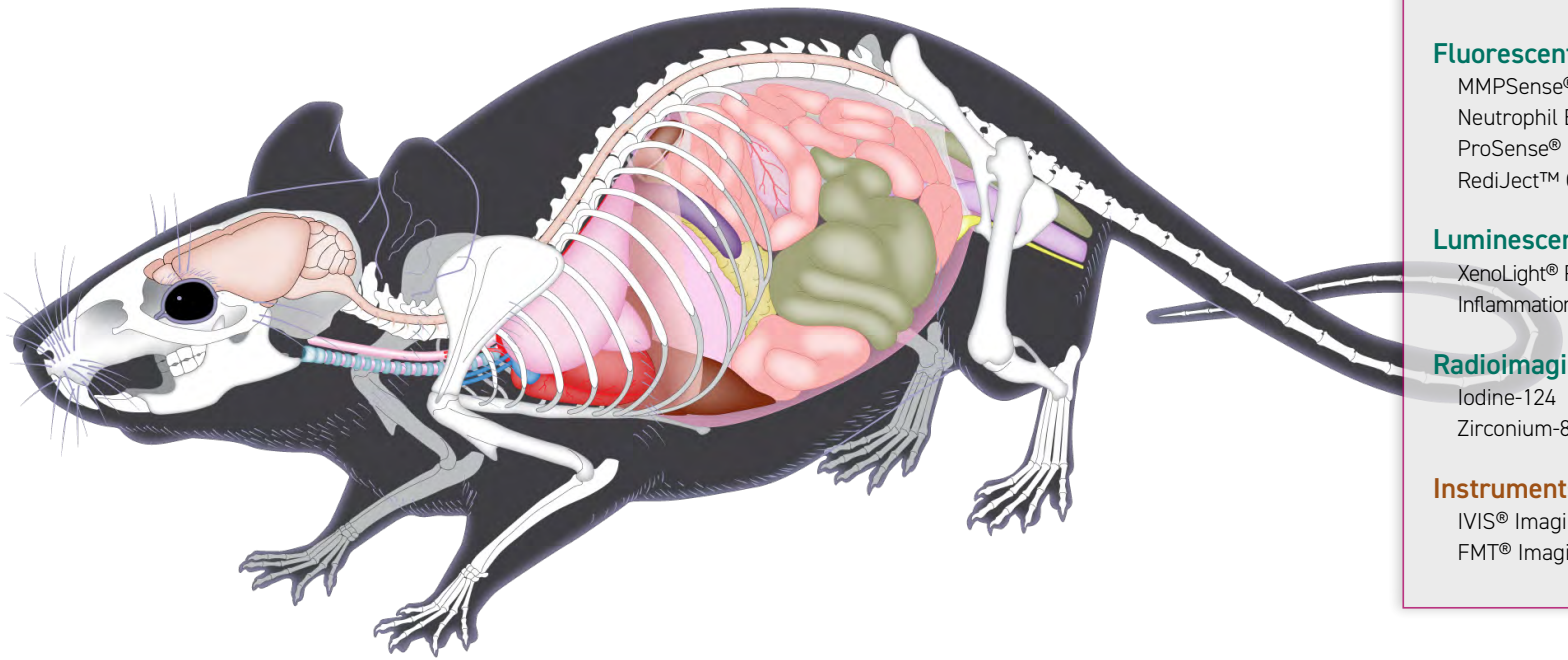
X

Fluorescent Agents

- GastroSense™
- AngioSense®
- ProSense®
- MMPSense®

Instruments

- IVIS® Imaging Platform
- FMT® Imaging Platform
- Quantum GX2 microCT



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

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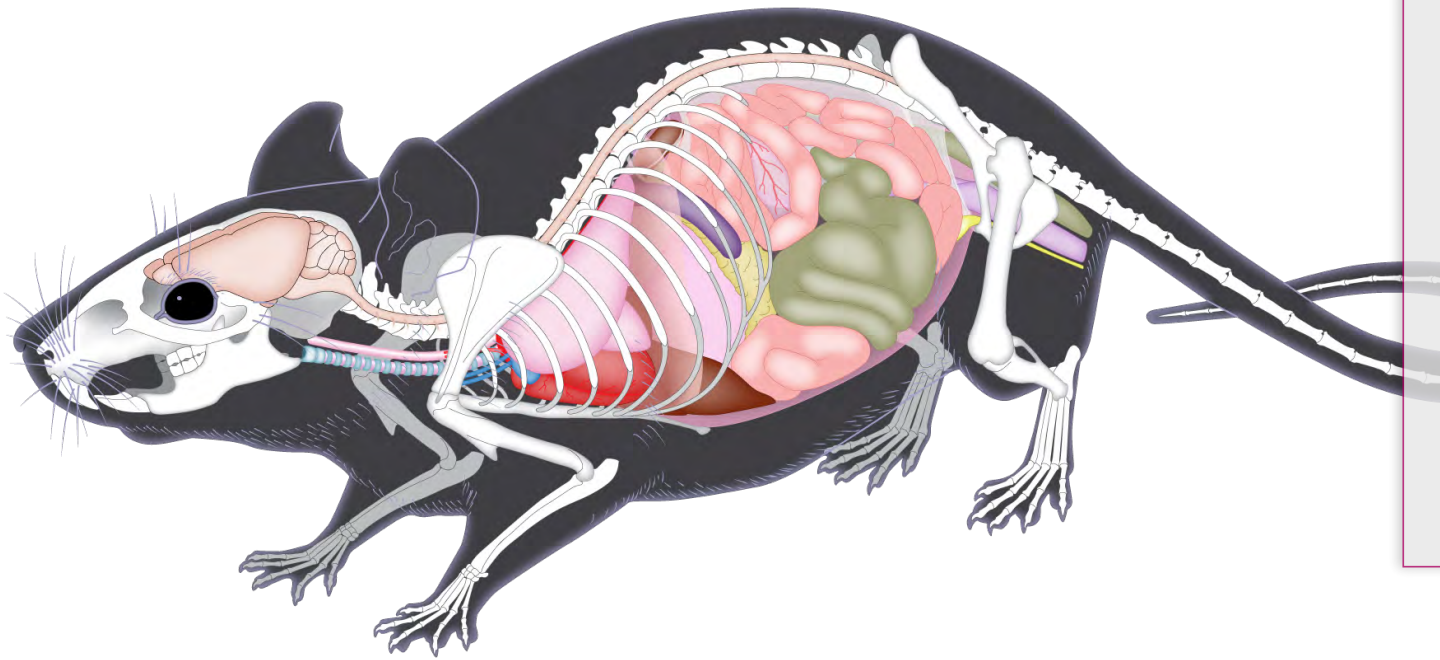

FEATURED PRODUCTS X

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

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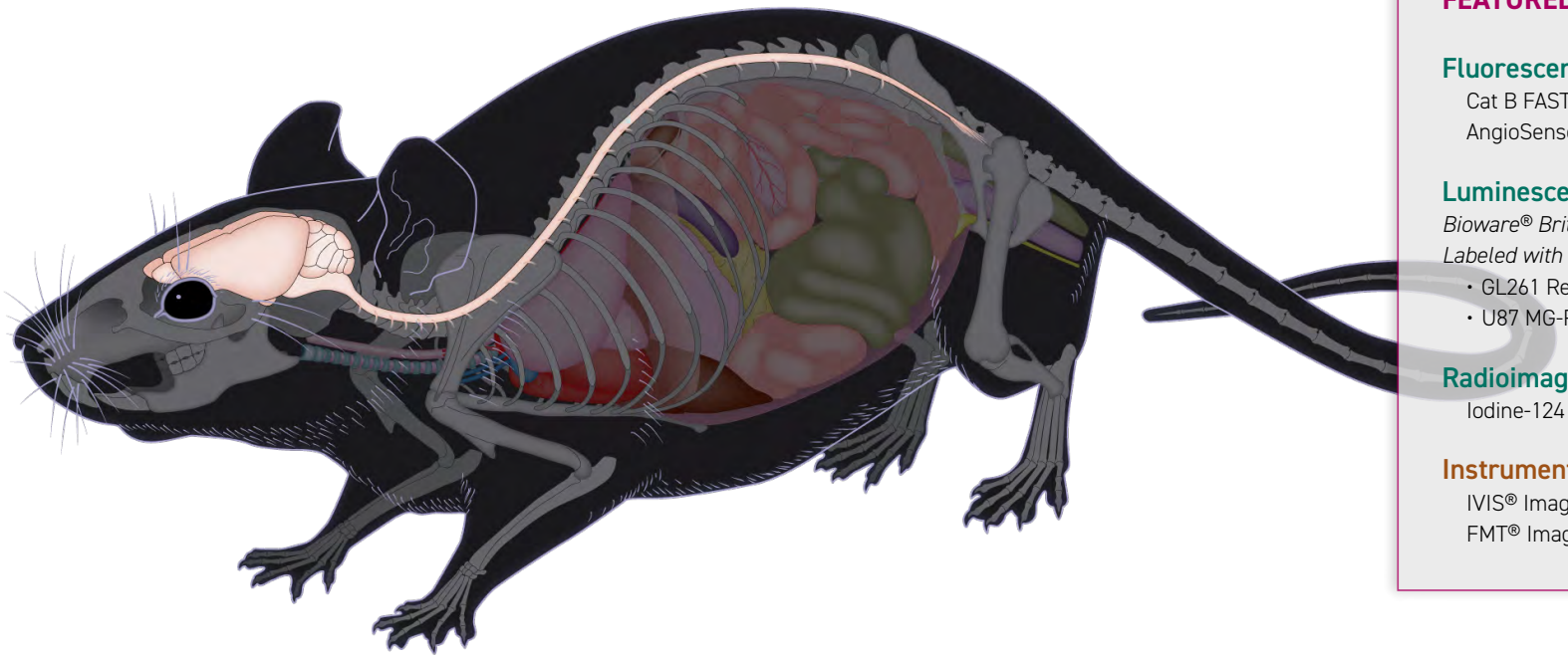

FEATURED PRODUCTS

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

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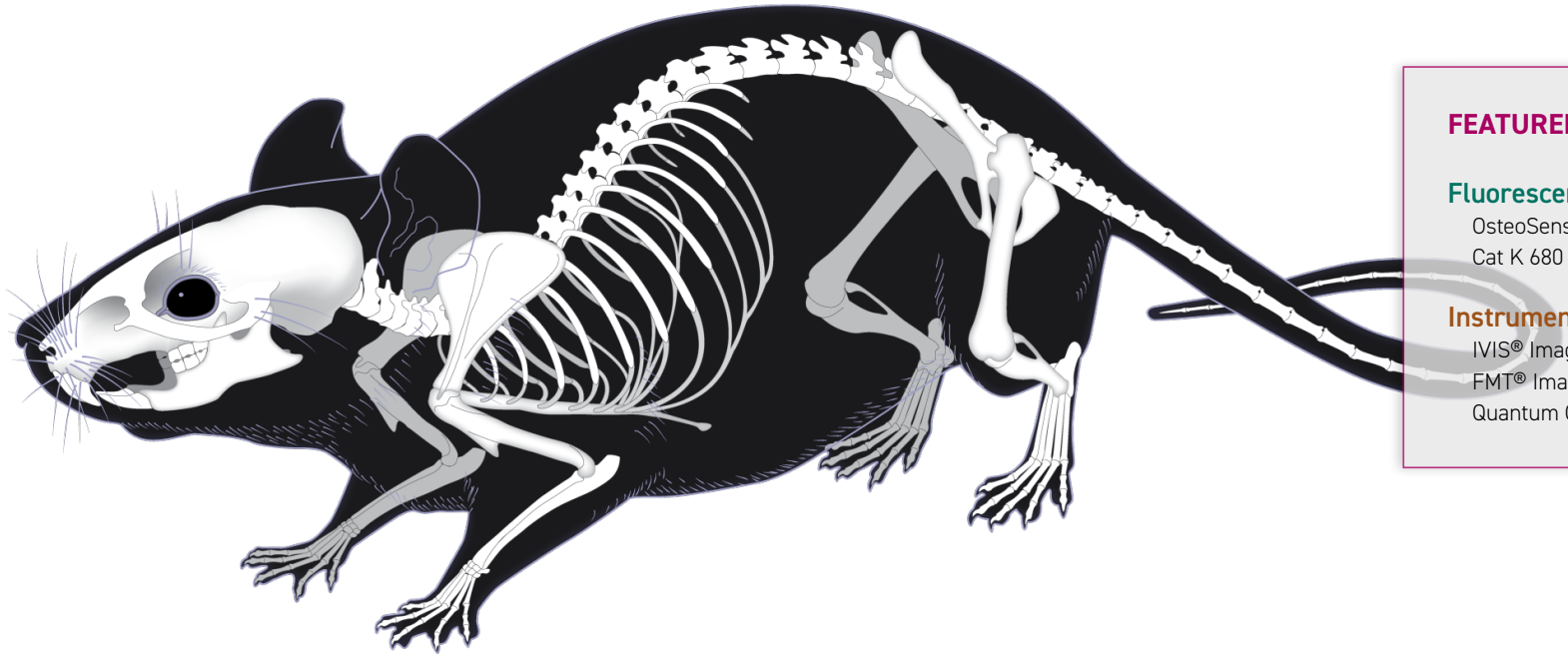

FEATURED PRODUCTS

Fluorescent Agents

OsteoSense®
Cat K 680 FAST

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
Quantum GX2 microCT

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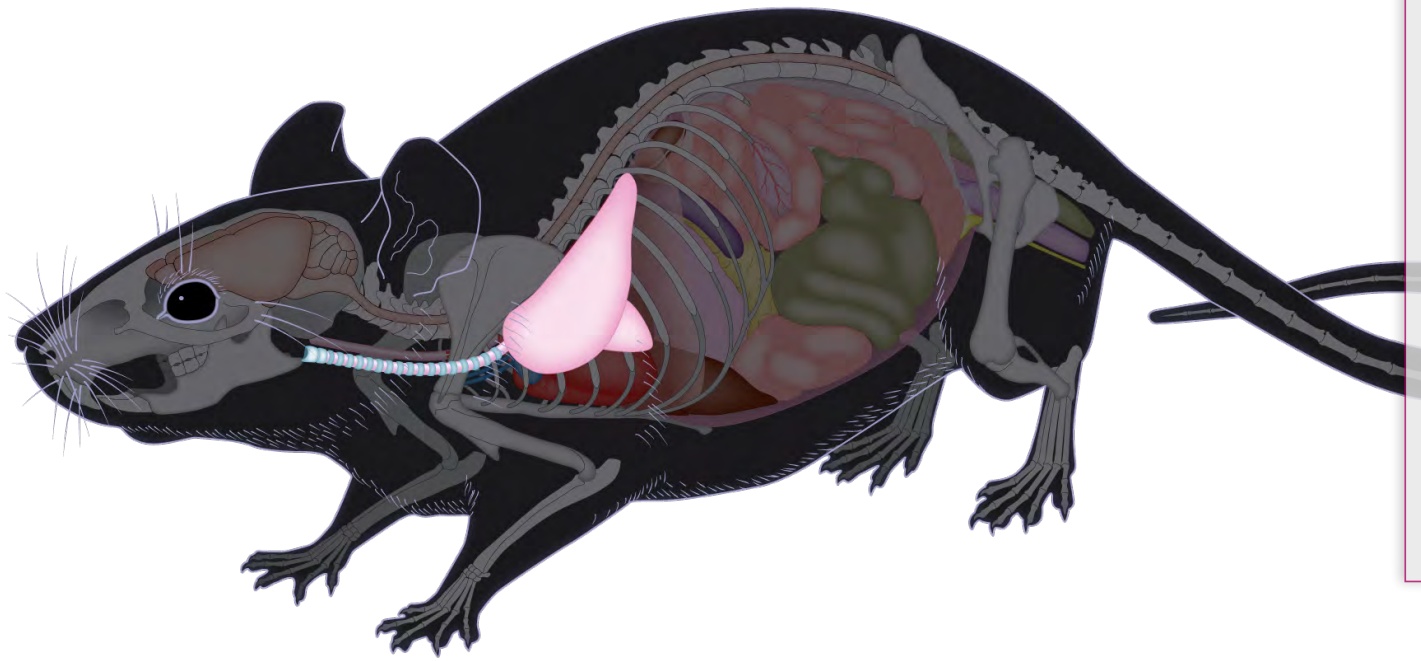

FEATURED PRODUCTS

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
Quantum GX2 microCT

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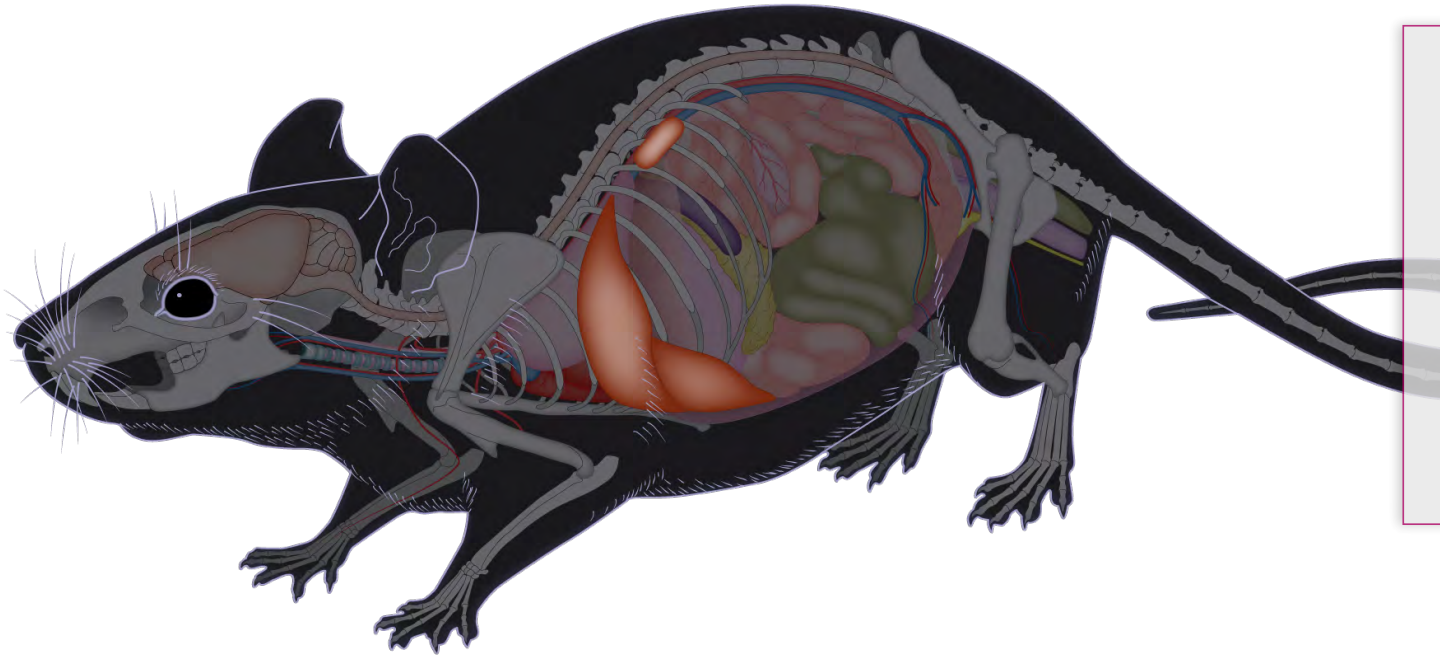

FEATURED PRODUCTS

Fluorescent Agents

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

Instruments

- IVIS® Imaging Platform
- FMT® Imaging Platform
- Quantum GX2 microCT

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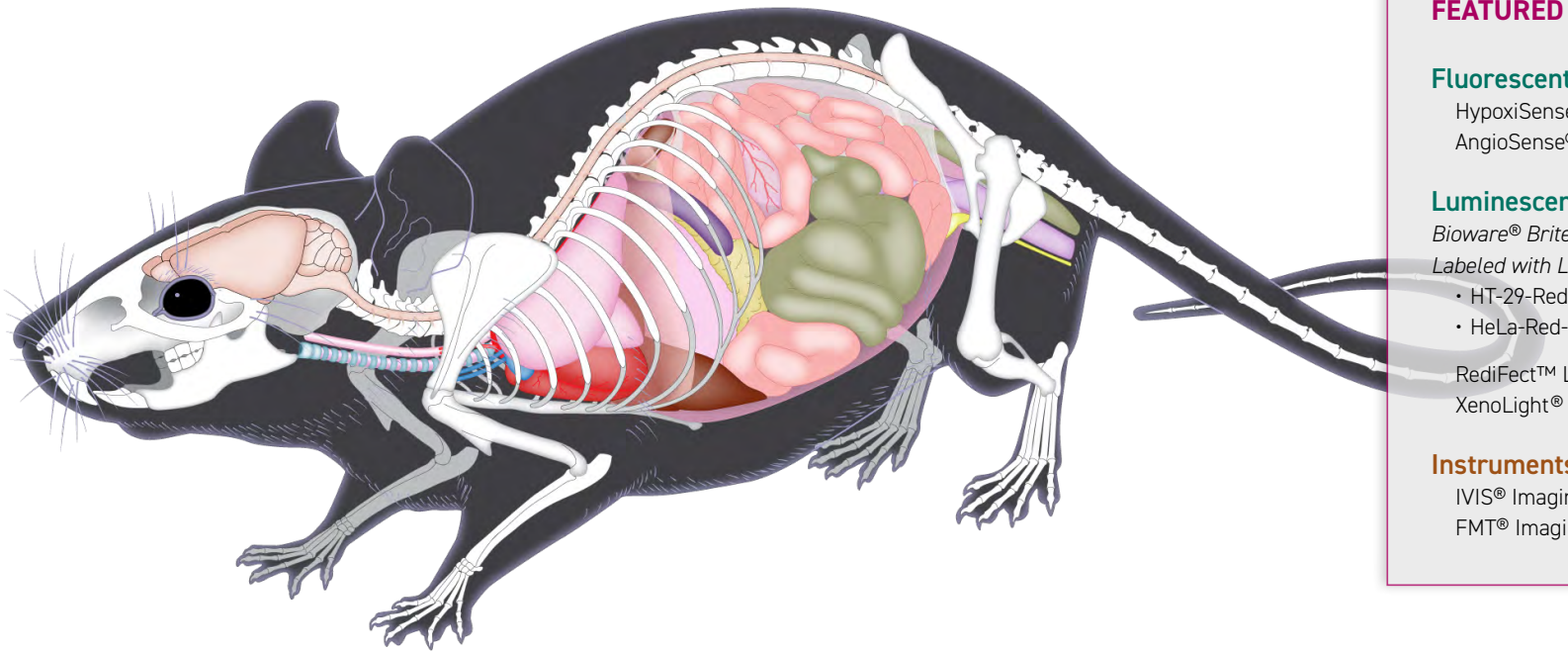

FEATURED PRODUCTS

X

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

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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

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

Radioimaging Nuclides
Iodine-124
Zirconium-89
Yttrium-90

Instruments
IVIS® Imaging Platform
FMT® Imaging Platform
Quantum GX2 microCT*

*May require contrast agent

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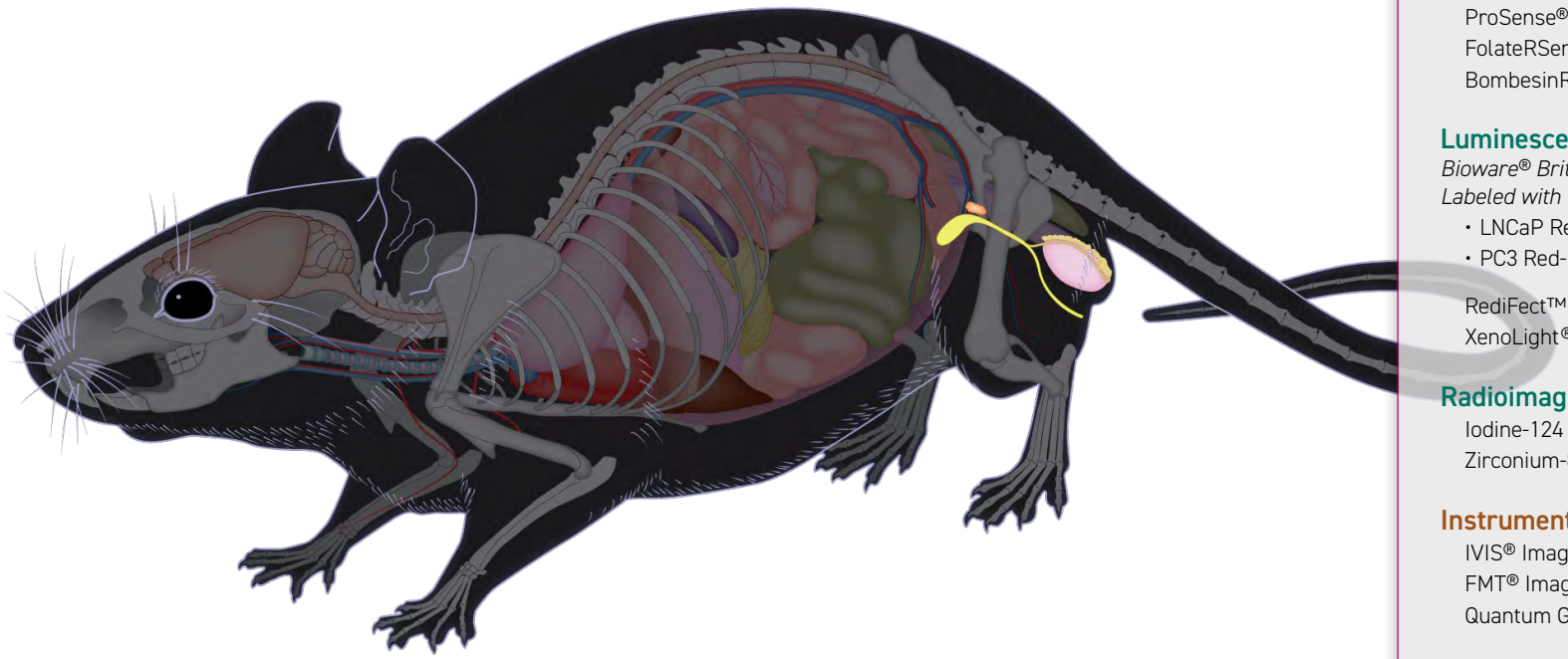

FEATURED PRODUCTS

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

Iodine-124 Yttrium-90
Zirconium-89

Instruments

IVIS® Imaging Platform
FMT® Imaging Platform
Quantum GX2 microCT*

*May require contrast agent

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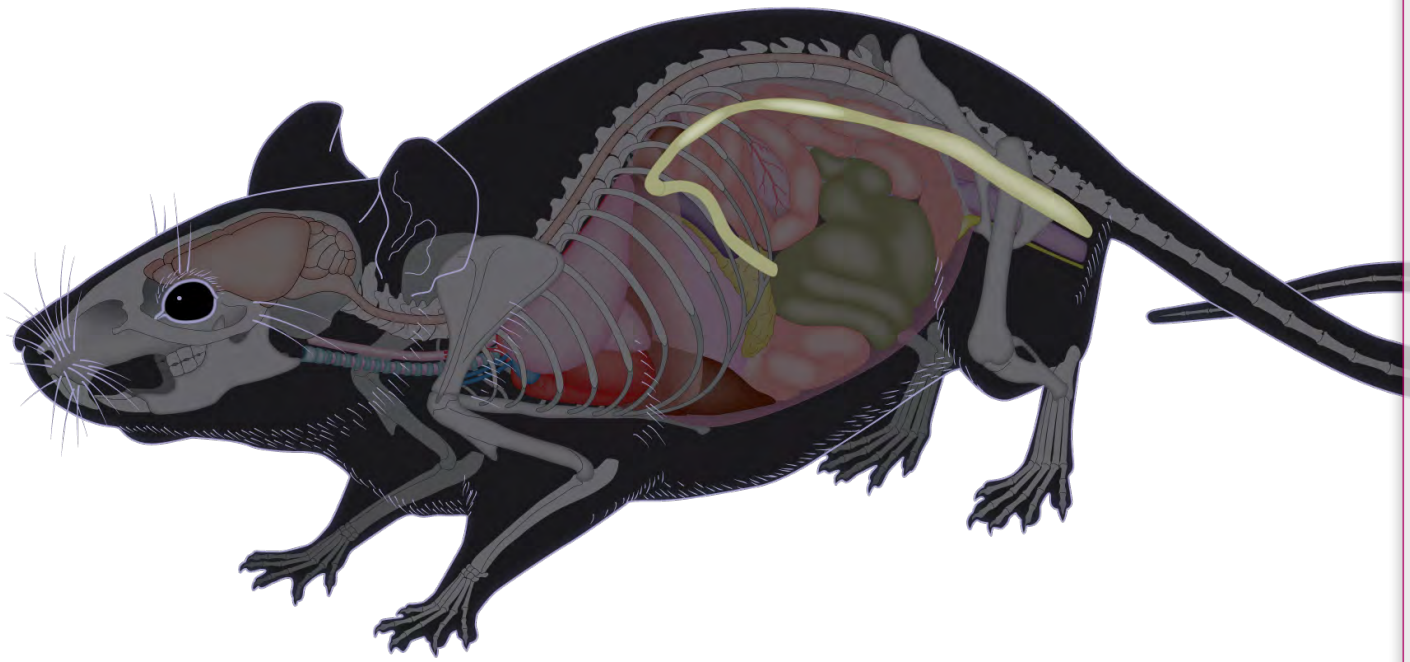

FEATURED PRODUCTS X

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
Iodine-124 Yttrium-90
Zirconium-89

Instruments
IVIS® Imaging Platform
FMT® Imaging Platform
Quantum GX2 microCT*

*May require contrast agent

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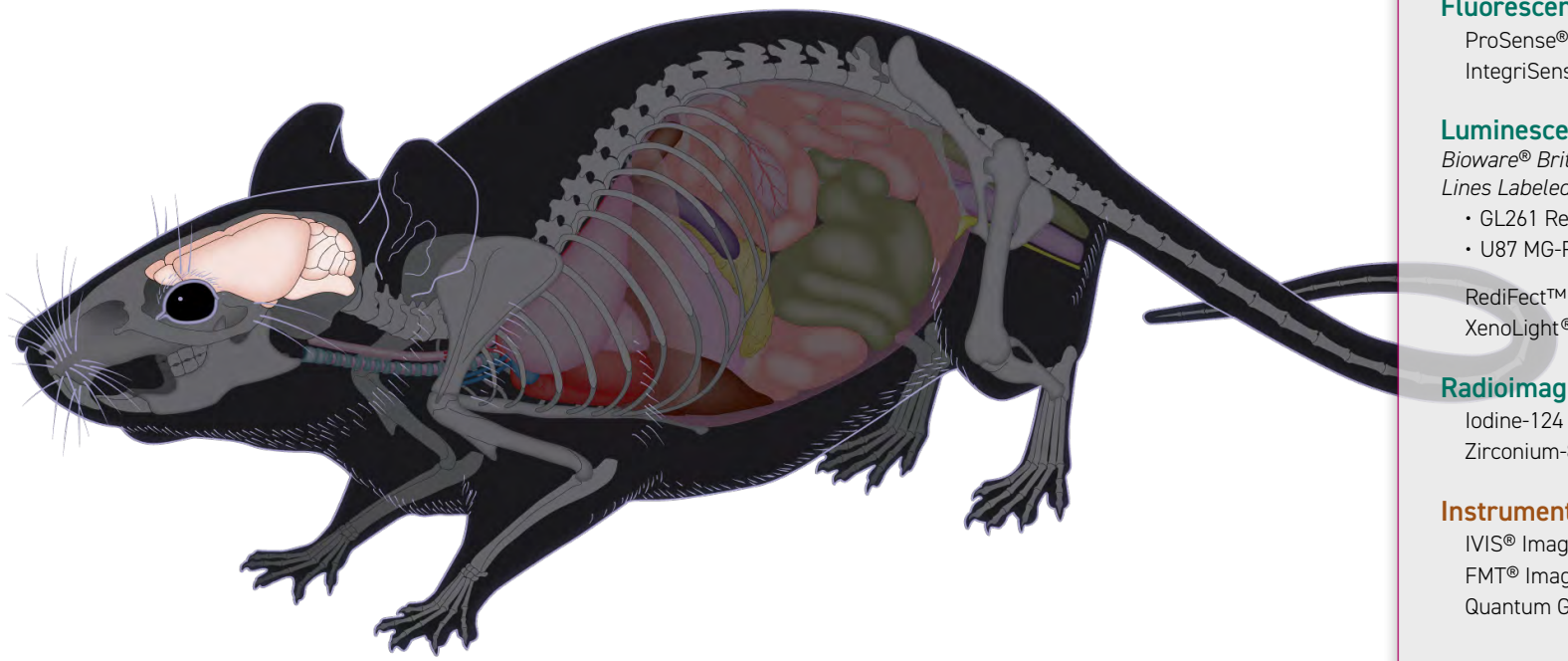

FEATURED PRODUCTS

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

Instruments
IVIS® Imaging Platform
FMT® Imaging Platform
Quantum GX2 microCT*

*May require contrast agent

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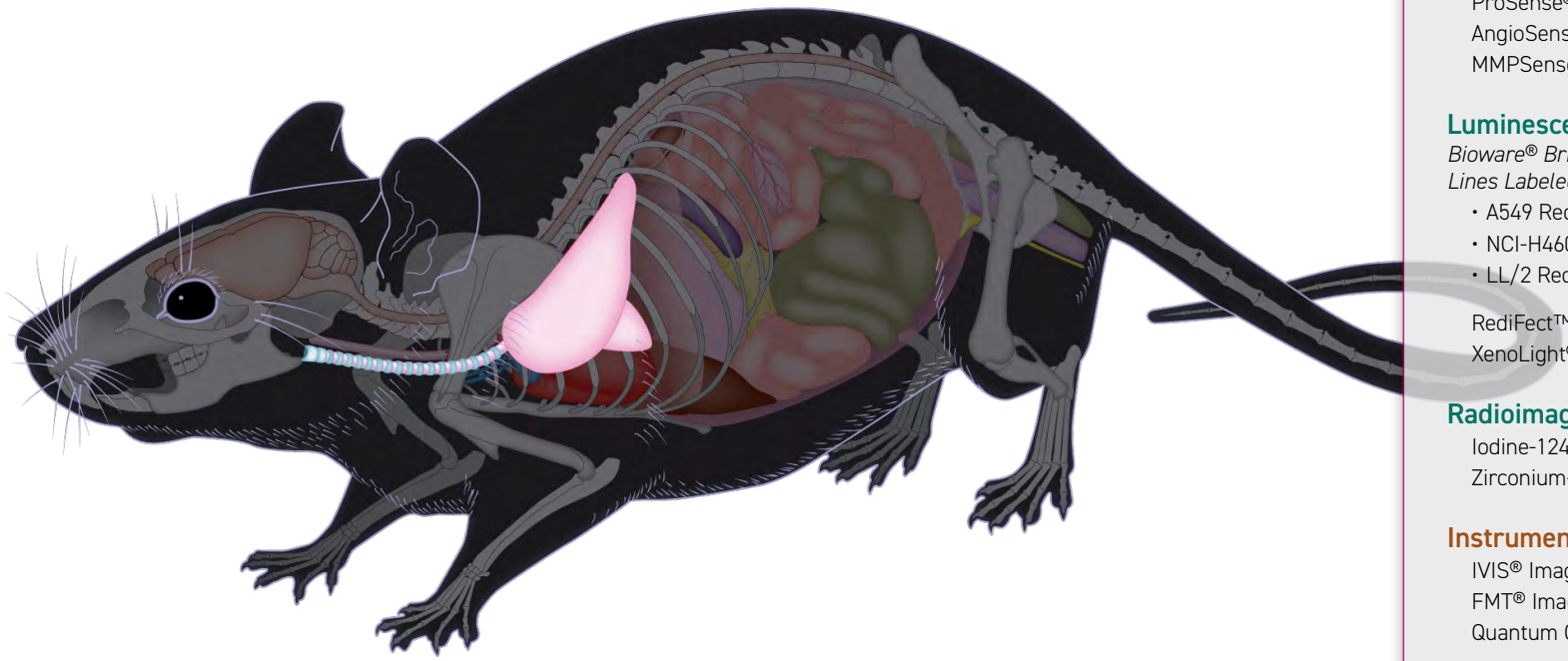

FEATURED PRODUCTS X

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

Instruments
IVIS® Imaging Platform
FMT® Imaging Platform
Quantum GX2 microCT

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