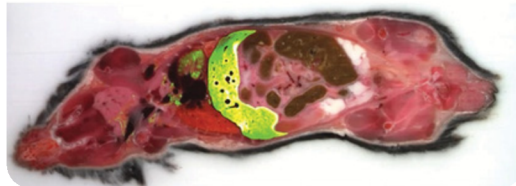
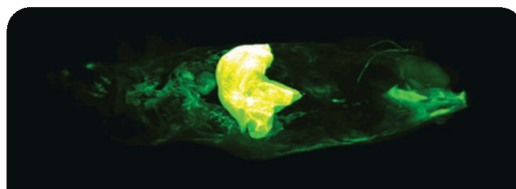
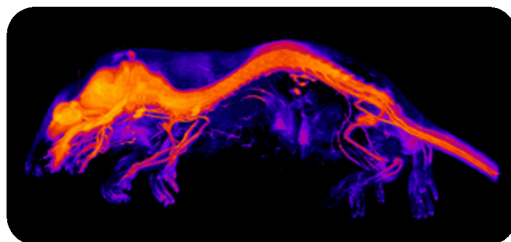


Transformative 3D imaging to monitor drug biodistribution, protein expression, and other biochemical processes

Cryo-Fluorescence Tomography (CFT) is a transformative volumetric approach to image drug biodistribution, protein expression, and other biochemical processes in whole animals and large tissue samples. EMIT Imaging offers both instrumentation and services via our platform, Xerra™, a high-resolution and high-sensitivity automated CFT system designed to advance biological and drug research discoveries. With CFT, researchers can:

- visualize and monitor whole-body drug distribution and delivery
- screen candidate drugs and delivery systems
- investigate whole-body therapeutic protein expression
- study the multiplexed co-localization of drugs with targets
- identify on-target and off-target effects



DISCOVER MORE

HIGH-RESOLUTION

Provides resolution down to 20 μ m

HIGH-SENSITIVITY

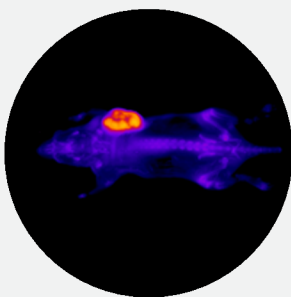
nM sensitivity, comparable to nuclear medicine

COMPREHENSIVE IMAGING

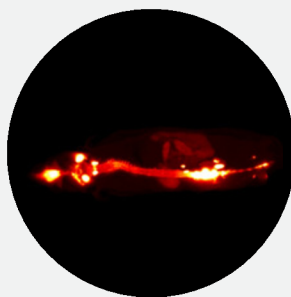
Captures anatomical + molecular data

MULTIPLEXING

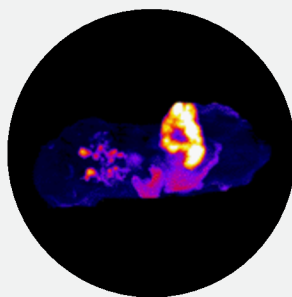
6 lasers and 7 filters for multiplexed applications



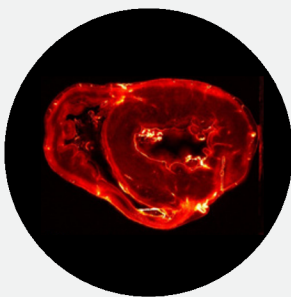
DRUG DISCOVERY



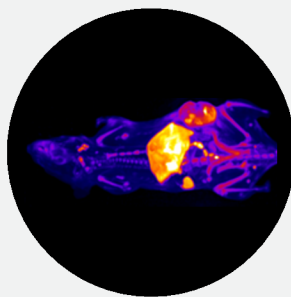
GENE THERAPY



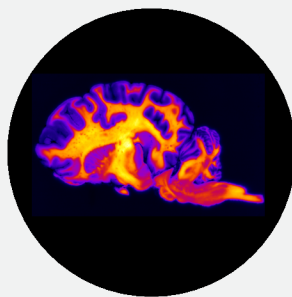
ONCOLOGY



LARGE ANIMAL



IMMUNOTHERAPY



NEUROSCIENCE



HOW CFT WORKS

1. PREP

Cryo-preserve & embed the sample

2. IMAGE

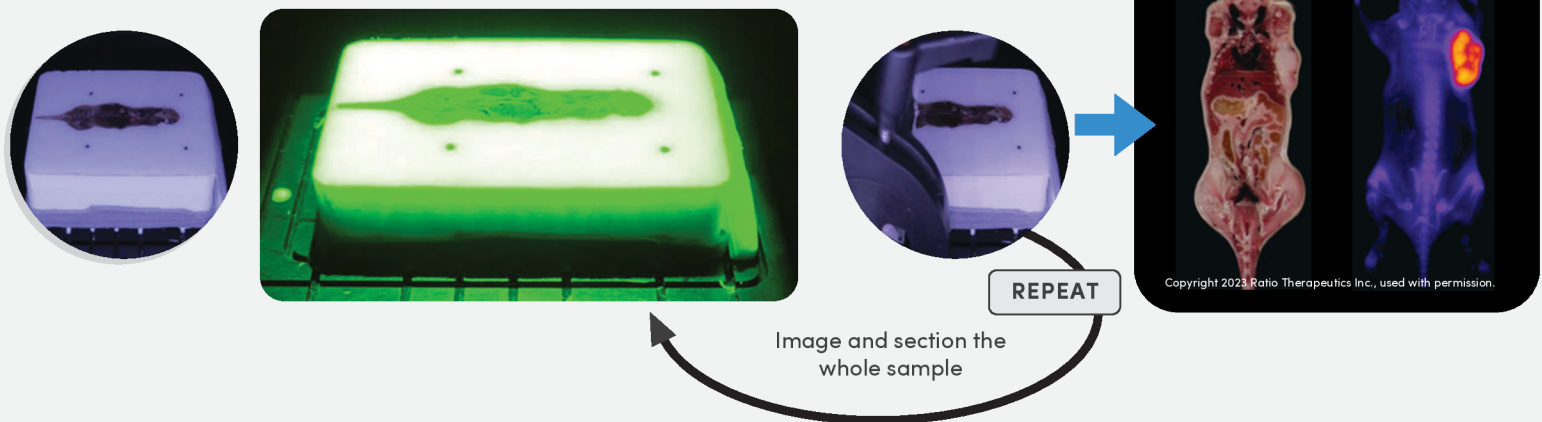
High-resolution, high-sensitivity anatomical & molecular imaging

3. SECTION

Remove 20–55 μm from the block surface

OUTPUT

2D section images & 3D image stacks



XERRATM CFT IMAGING PLATFORM

- Xerra automates the CFT workflow
- Xerra sections frozen biological samples
- Anatomical and molecular data is co-registered
- Capable of multiplexing fluorophores
- 5 magnifications: 20–55 μm pixel resolution
- 6 excitation lasers: 470 to 780 nm
- 7 emission filters: 500 to 850 nm
- Xerra is CE marked

Available as instrumentation
& a service!

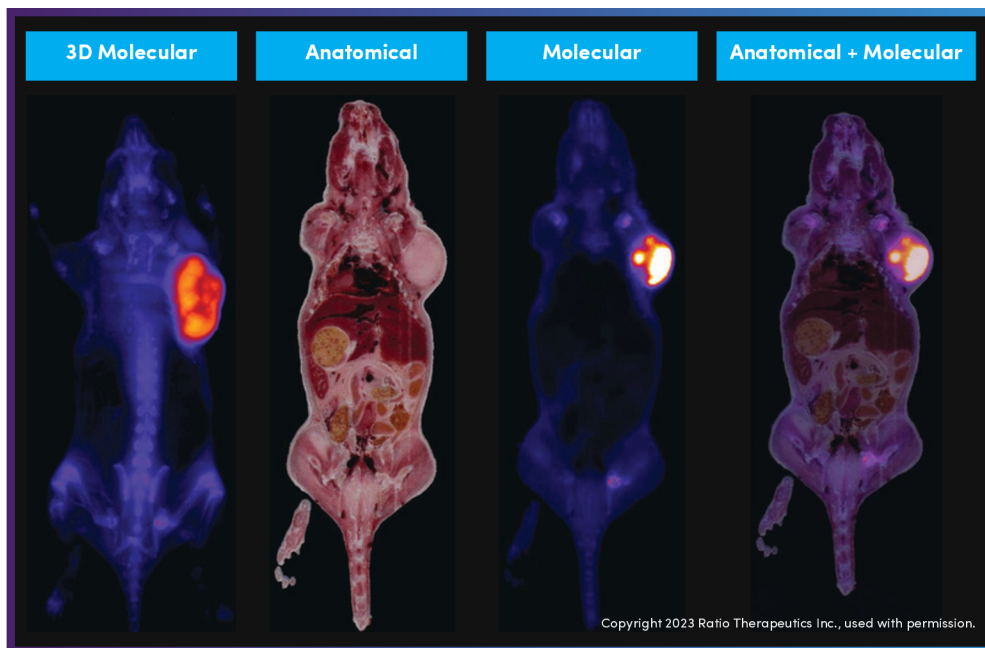


**Learn about
CFT Services**



APPLICATIONS

Fibroblast-activation protein (FAP): Whole-Body Drug Biodistribution

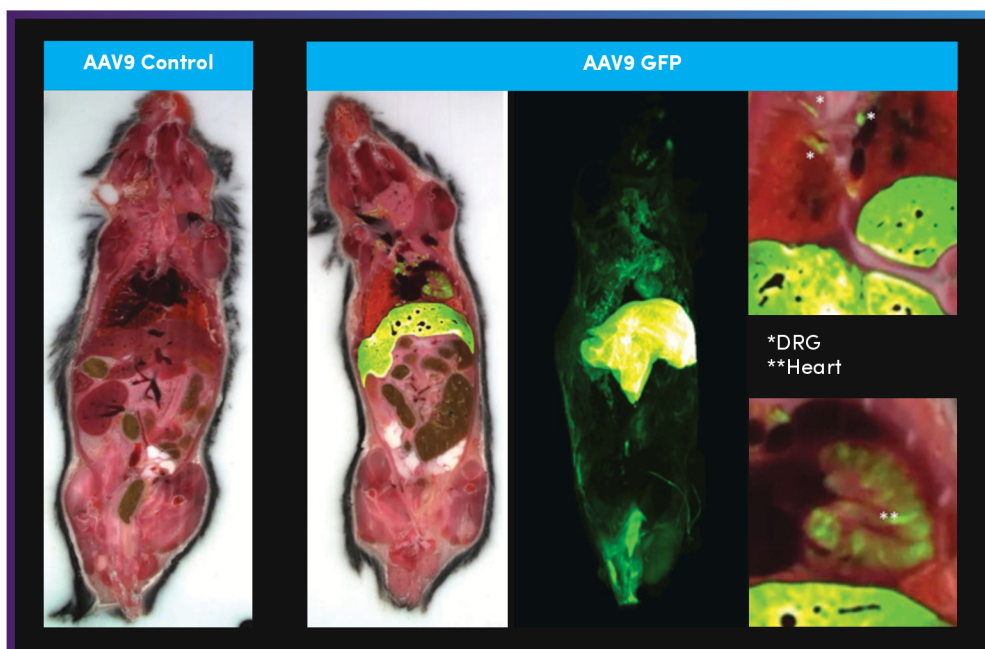


FINDINGS: Data confirms drug preferential uptake in the tumor with minimal uptake in other organs/tissues

DETAILS:

- 1 µg dose of ZW800-1-labeled
- FAP-targeting small molecule
- U87 xenograft
- 4 hours post-IV administration
- Imaged at 35 µm

AAV-mediated Protein Expression Following IV Administration



FINDINGS: CFT uniquely achieves the required combination of resolution and sensitivity in a whole animal

DETAILS:

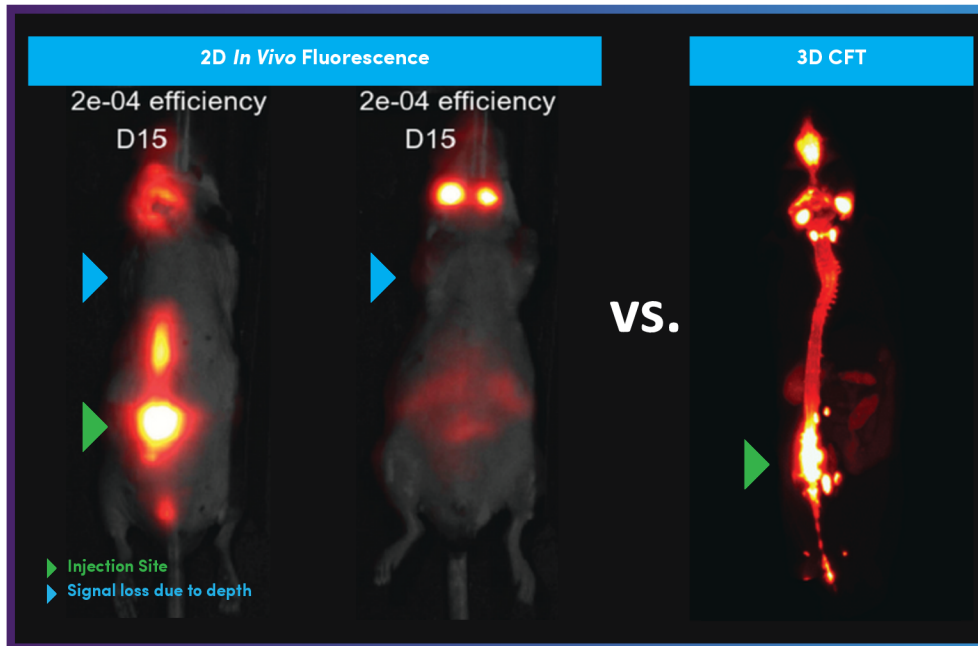
- GFP expression at day 15 following IV injection
- No expression in the control
- Liver is major organ where GFP expression occurs
- Note signal in dorsal root ganglion (DRG) and heart



Learn More!

APPLICATIONS

Whole-Body Distribution of a Labeled ASO Following IT Injection

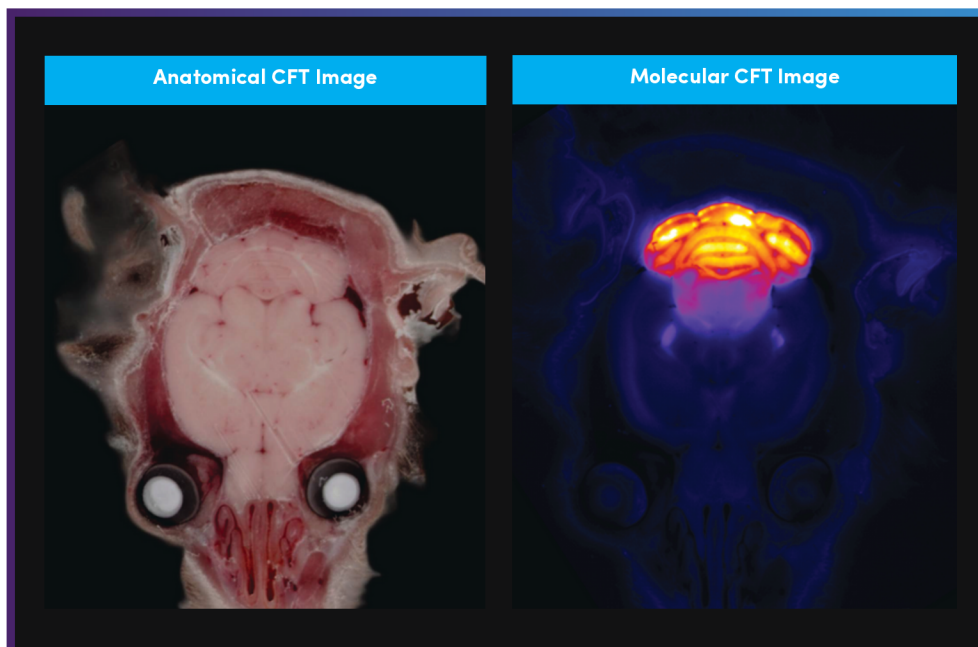


FINDINGS: CFT is superior to surface fluorescence due to its depth limitations (signal loss) and poor resolution

DETAILS:

- Cy5-labeled ASO at day 15 following IT injection
- Full visualization of spinal column into the cisterna magna
- CFT detects biodistribution and clearance: GI, lymphatic, nasal turbinate, etc.
- CFT is 3D and high-resolution: <50 μm versus >1 mm in optical and nuclear medicine

Cell-specific Fluorescence Reporter Imaging



DETAILS:

- GAD67-GFP (line G42) mice selectively express enhanced green fluorescent protein (EGFP) in the parvalbumin (Pv)-expressing subclass of basket interneurons (soma, dendrites, and axons) and also in putative presynaptic boutons.



Learn More!