

# cryo-fluorescence tomography **SERVICES**

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



### What is Cryo-Fluorescence Tomography?

Cryo-Fluorescence Tomography (CFT) is a transformative 3D 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<sup>TM</sup>, 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

### Performance

**HIGH-RESOLUTION** 

Provides resolution down to 20 µm

#### **HIGH-SENSITIVITY**

nM sensitivity, comparable to nuclear medicine

#### **COMPREHENSIVE IMAGING**

Captures Molecular + Anatomical

MULTIPLEXING

6 lasers and 7 filters for multiplexed applications



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### **Benefits of CFT Services**

Rich datasets that lead to actionable results that can expedite with go/no-go decisions

Studies run & results analyzed by CFT experts

Rapid turnaround – initial results in as fast as 14 business days

Customizable service and analysis packages



### **Ideal For Researchers That**

- Require easy access to advanced CFT imaging
  - Need comprehensive data for biodistribution or protein expression studies
  - Want to evaluate CFT as a technology
  - Lack dedicated imaging facilities or internal resources
  - Are striving to accelerate drug time-to-market
  - Wish to reduce internal operational costs
    - Experience periodic or unpredictable imaging needs





### **Study Design to Optimize Quantification**

At EMIT, we guide our customers through every step of running a CFT services project to ensure high-quality, reliable results.

- <u>Study Preparation</u>: EMIT scientists work with customers to optimize studies with recommendations on food selection, fluorescence probe concentrations, and sample freezing methods.
- <u>Project Planning</u>: EMIT's Project Managers (PM) collaborate with the customer to define the full project imaging and analysis scope. The PM coordinates sample shipping, receiving, and serves as the main point of contact throughout the project.
- <u>Study Start-up</u>: Samples are prepped, embedded in a specialized imaging media, and loaded with calibration standards. Samples are then loaded onto EMIT's CFT imaging platform, Xerra<sup>™</sup>, where study parameters are selected.
- Image Acquisition and Data Pre-processing: Sectioning, image acquisition, and data pre-processing are all automated within Xerra<sup>™</sup>.
- <u>Image Analysis</u>: After imaging, our team of CFT experts generate 2D image stacks and 3D MIPS for each sample and work directly with customers to identify regions of interest (ROIs) for further analysis. Standard and advanced analysis packages are available.



**Example Brain Atlas** 







Example Standardization Setup





Example ROI Selection & Analysis





### What Do Customers Receive Upon Completion of a Service Project?

Customers receive access to all of their raw data along with a comprehensive report with analysis and close out meeting



**How Does A Service Project Work?** 

#### Service Plan Comparison

#### **Standard Analysis Package**

- Standard image processing
- Generation of 2D flythrough
- Creation of 3D MIP for each sample
- Analysis of up to 7 tissues of interest
- Statistical analysis

#### **Advanced Analysis Package**

- Standard Analysis Package, plus:
- Sub-regional analytics
- Custom analysis & ratios
- Full 3D organ ROI analysis
- Custom visualizations
- Advanced statistical analysis

#### Step 1



Ship your frozen samples to EMIT Imaging following a pre-study planning meeting

#### Step 3



Experts analyze the data and compile findings





Our team collects data on a Xerra™ CFT System

#### Step 4



Data review meeting & provision of deliverables





BD = Business Days

Note: Above is a hypothetical timeline, actual timeline varies project-to-project depending on project scope