Invicro
A Konica Minolta Company

Advanced Pathology Services

Cryo-Fluorescence Tomography (CFT)

Uncovering Meaningful Biological Insights to Advance Preclinical Discoveries

Invicro's three dimensional tissue imaging service is an advanced *ex vivo* technique that provides anatomical and molecular fluorescence 3D images. CFT bridges the gap between *in vivo* imaging and tissue microscopy to evaluate PK-PD efficacy relationships. CFT can be part of a multi-modality imaging approach to provide macro to micro scale information from the same sample. Our experienced team of research scientists can support studies across therapeutic areas including: oncology, neurology, immunology and rare diseases.

CORE APPLICATIONS

- Evaluate the biodistribution of biological therapies including: oncolytic viruses, monoclonal antibodies (mAb), antibody drug conjugates (ADC) and bispecific fusion proteins
- Track the biodistribution and transduction of gene therapies using different routes of administration
- Track and visualize CAR-T cells, NK cells, dendritic cells, macrophages and stem cells
- Visualize and characterize transgenic and reporter models

ADVANTAGES

- **High Sensitivity:** Compared to BLI/FLI, CFT offers higher sensitivity to detect signal deep in tissue
- **Superior Resolution:** Provides highest resolution compared to traditional whole animal imaging modalities
- **Increased Throughput:** Process several mice or multiple dissected organs on the same block
- **Robust:** Reduce data variability by combining CFT with *in vivo* imaging and tissue microscopy from the same animal
- **Simple:** No fixation, perfusion, tissue clearing, or radiolabeling required to maintain complete anatomical context

Tracking Delivered Gene Therapies

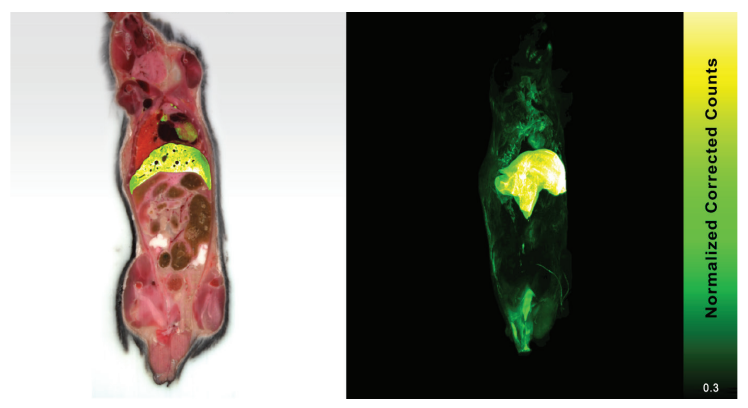

Figure 1: Visualization of AAV9-mediated GFP expression in a whole mouse. In this study, the distribution and transduction of AAV9-GFP across all organs was evaluated including: heart, liver and DRG 4 weeks post-IV administration, while maintaining anatomical context. 3D reconstructed images show anatomical (left) and signal localization in whole animal (right).

Tracking Recruitment of Immune Cells

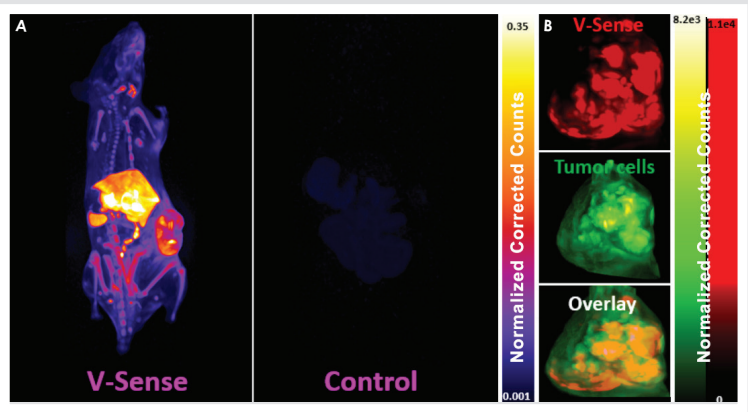

Figure 2: Macrophage tracking in a tumor-bearing mouse model. A) V-Sense-NIR, used to track macrophages, is visualized in liver, tumor, lymph nodes and bone marrow in a whole tumor-bearing animal. B) The relation between macrophages and tumor cells is demonstrated by overlaying tumor cell and macrophage images. Dimant *et al*. (2018) WMIC.