

# HIGH RESOLUTION PRECLINICAL PET

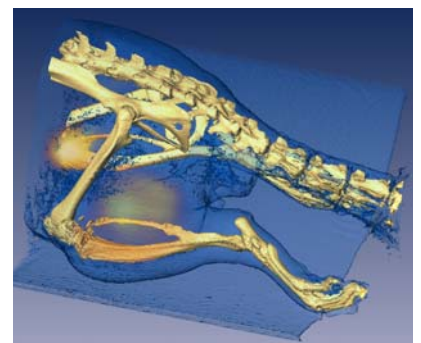
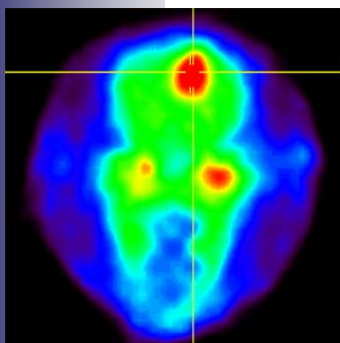
**MIR owns and operates a high resolution preclinical PET system with Co-Registered CT on site.**

This system has the highest sensitivity and largest axial field of view among small animal PET systems, increasing throughput and minimizing costs



This preclinical PET technology is directly translatable to human clinical trials and allows researchers to accurately measure tumor burden, biodistribution and mechanisms of drug function. Some of the common uses of PET imaging are:

- Tumor Detection and Staging
- Response to Therapy
- Tumor Perfusion and Blood Volume
- Protein Synthesis
- Cellular Proliferation
- Drug Distribution
- Metabolic Imaging



Innovation in Drug Evaluation

MIR Preclinical Services



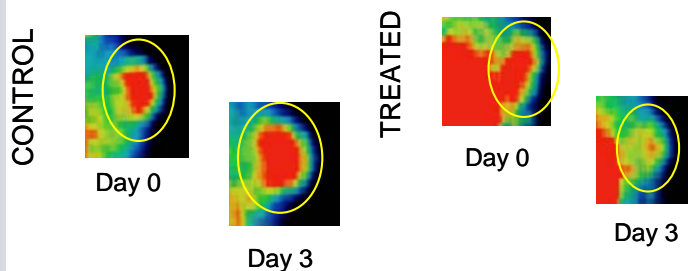
## Background Information On Small animal PET Technology:

Positron emission tomography (PET) is increasingly used to study tumor biology in vivo for preclinical drug discovery. As applications of PET in mouse cancer models have increased, PET equipment design and sensitivity have also improved, allowing higher image resolution and animal throughput.

PET studies utilize the same radio-tracers as used in clinical PET, providing the same versatility in imaging molecular and cellular function in vivo. PET tracers have been used to measure cellular glucose metabolism ([<sup>18</sup>F]-fluorodeoxyglucose, FDG), cellular proliferation ([<sup>18</sup>F]-fluoro-thymidine, FLT), protein synthesis ([<sup>11</sup>C]-methionine, MET; [<sup>18</sup>F]-tyrosine), ([<sup>18</sup>F]-MMP-2 inhibitor) as well as transgene expression. Tumor detection and therapy monitoring using micro-PET takes advantage of pathologic changes in tumor cells which promote enhanced uptake of these tracers.

### MIR:

If you would like more information on this, or any other MIR service, please feel free to contact the company using the information given below. MIR can also set up a webinar conference to discuss services, technology, capabilities, strategies and protocol design. Let MIR help you meet your preclinical research needs.



The images to the left demonstrate effective anti-cancer efficacy using FDG PET to image the metabolic activity of a subcutaneous human tumor xenograft in a nude mouse.