New High Resolution Digital Ultrasound Imaging Service in CLS Animal Research Facility

The **Preclinical Murine Pharmacogenetics Core (PMPC)** and the **Cardiac Physiology Core (CPC)** will be jointly offering high resolution digital ultrasound/echocardiogram imaging services using Vevo® 2100 system. This service will be available ***in CLS Animal Research Facility*.**

Applications in Cancer-related Research

- Non-invasive *in vivo* real-time imaging for processes that happen over a period of time, such as subcutaneous or orthotopic tumor volume changes and angiogenesis.
- Ability to detect tumors before they are palpable or extremely small (30 µm or larger in diameter).
- Quantification of tumor volumes in 2D and 3D. This system performs longitudinal studies that monitor the progression of disease in the same animal over time.
- Detection and quantification of metastasis. Ultrasound is an excellent tool for general soft tissue imaging, therefore metastasis to organs and lymph nodes can be observed.
- Identification and quantification of tumor blood flow. Power and Color Doppler functionality allows the identification and measurement of blood flow in and around tumors.
- Observation of capillary formation and flow in neoangiogenesis.

Picture of the Vevo 2100 ultrasound platform (VisualSonics).

Applications in Cardiovascular Research

- Non-invasive 2-D imaging evaluation of cardiac function. Also, digital feature will allow generation of digital images of the heart.
- Non-invasive M-mode imaging for accurate measurements of cardiac function, left ventricular wall thickness and chamber dimensions.
- PW Doppler imaging for vascular flow analysis and vascular/aortic gradient calculation.

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