

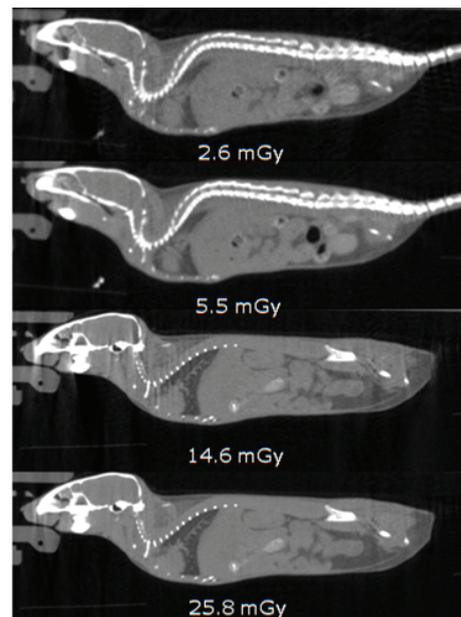
PET/CT Si78: Versatility in microCT Dose, Speed, & Resolution

The Bruker PET/CT Si78 now pairs total-body PET and SkyScan microCT technology. This combination offers the advanced microCT features of SkyScan microCT for a high-speed/low-dose PET anatomical reference, plus a high degree of functionality for dedicated microCT applications.

Low-Dose/High-Speed microCT Anatomical Reference

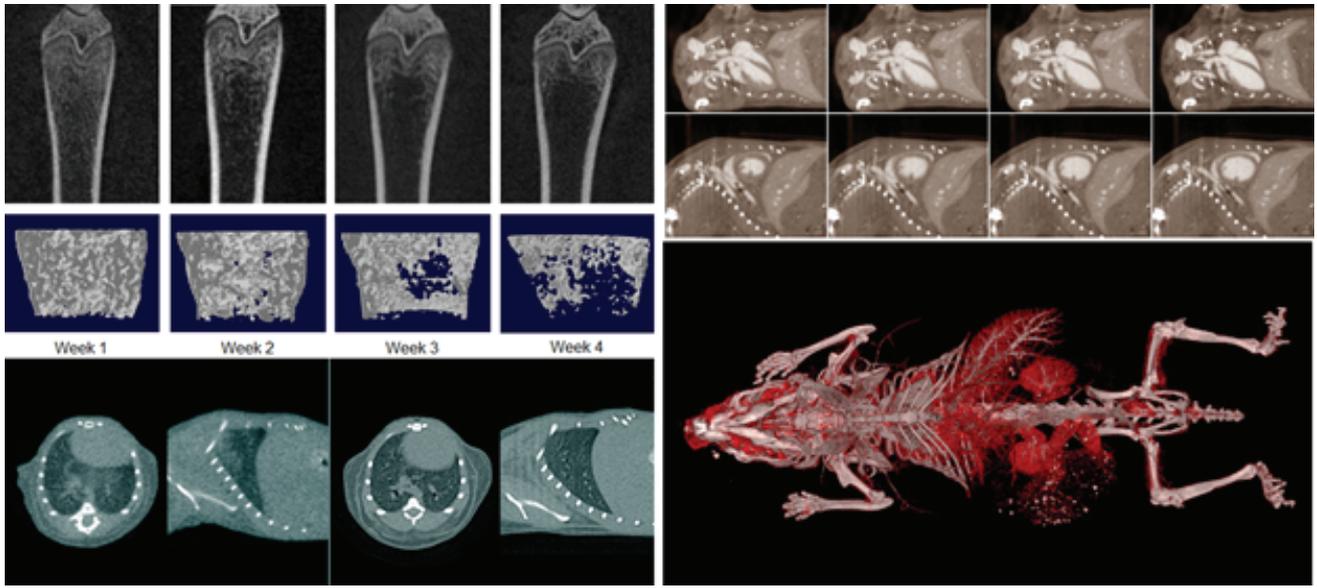
Preclinical microCT combined with integrated PET provides anatomical and attenuation maps for functional PET signals. Anatomical maps provide a landmark to localize signal to an organ or other tissue and allows for analysis not possible through functional imaging only. Critical aspects for an anatomical reference will be that there is sufficient contrast to localize target regions and without excessive exposure to ionizing X-ray radiation. SkyScan microCT employs unique technology to allow for fast scans (<10 seconds) and ultra-low doses (down to 2.6 mGy) while maintaining image contrast which is key for anatomical contrast (Figure 1).

Figure 1



MicroCT scanning with combined speed, dose, and image quality ideal for PET/CT studies.

Figure 2



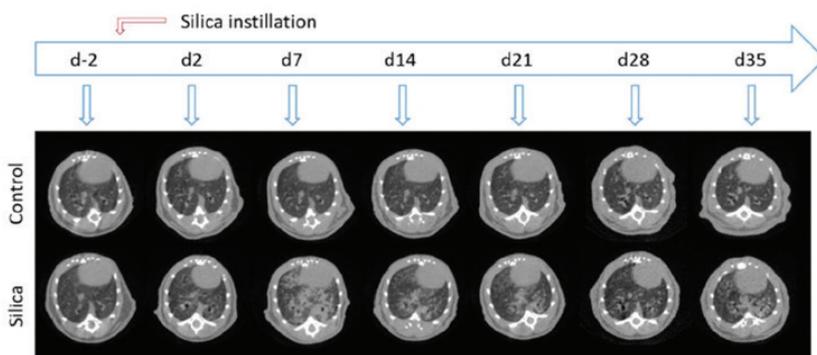
MicroCT performance for demanding applications including cardiac, lung, and bone studies.

Demanding microCT Applications

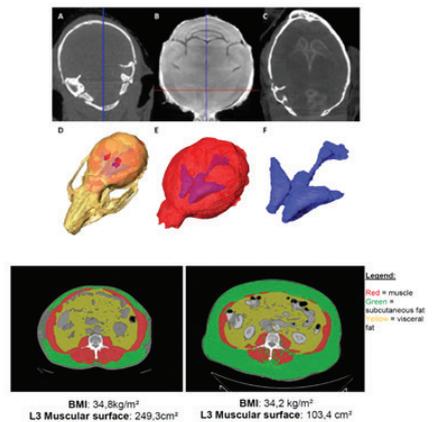
Due to space and budget limitations, more users are leveraging integrated PET/CT platforms for more demanding dedicated microCT applications. With the advanced features of SkyScan microCT technology, the PET/CT Si78 is also configured for demanding dedicated microCT applications including rat osteoporosis and cardiac/pulmonary (disease) models (Figure 2).

Further, the Si78 microCT subsystem technology is also used in a standalone microCT platform the SkyScan 1278. This microCT system has been used for low-dose, longitudinal imaging in studies of skeletal and brain development of mouse pups¹, in studies of adipose tissue segmentation², and in studies of pulmonary fibrosis³ (Figure 3). The system has also been used to assess the scan and dose limits where even subclinical radiation dose effects are not incurred⁴.

Figure 3



SkyScan 1278, Vande Velde Lab, KU Leuven



Proven technology for both dedicated low-dose and demanding microCT applications (1-3).

References

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