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IN VIVO MOLECULAR SMALL ANIMAL IMAGING BY CT AND MRI

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Imaging tools for in vivo molecular small animal are computed tomography (CT), magnetic resonance (MR) imaging, optical imaging, and positron emission tomography (PET), et al. CT and MR imaging have high anatomical resolution compared with other imaging modalities. Micro-CT is emerging as an imaging technique because of the need for three-dimensional analysis of small specimens. Micro-CT has been recognized as a valuable tool in research laboratories for use in the examination of bony structure of small animal and human bone biopsy specimens. Another area of interest is the vasculature and micro-vasculature in small animal. MR imaging using animal coil is useful to research the molecular imaging in small animal, especially cancer research, stem cell trafficking, and vascular imaging. In the paper, I will discuss the advantage and disadvantage of micro-CT and MR imaging in vivo molecular small animal imaging.

Key Words: Molecular imaging, Micro-CT, MR imaging