

SINGLE PHOTON EMISSION COMPUTED TOMOGRAPHY (SPECT)

SPECT is a versatile technique to study molecular processes in vivo using radiolabeled tracers. With its versatility regarding the ability to use Y-emitters with various energies and half-lives, and the use of multi-pinhole collimation strategies in variable configurations, it also poses some problems in designing optimized and standardized protocols.

Within the Standard Group SPECT we are putting effort into generating best practice guidelines with the ultimate goal to have more comparable data from studies from different groups and guidelines for protocol design especially for imaging low count targets.

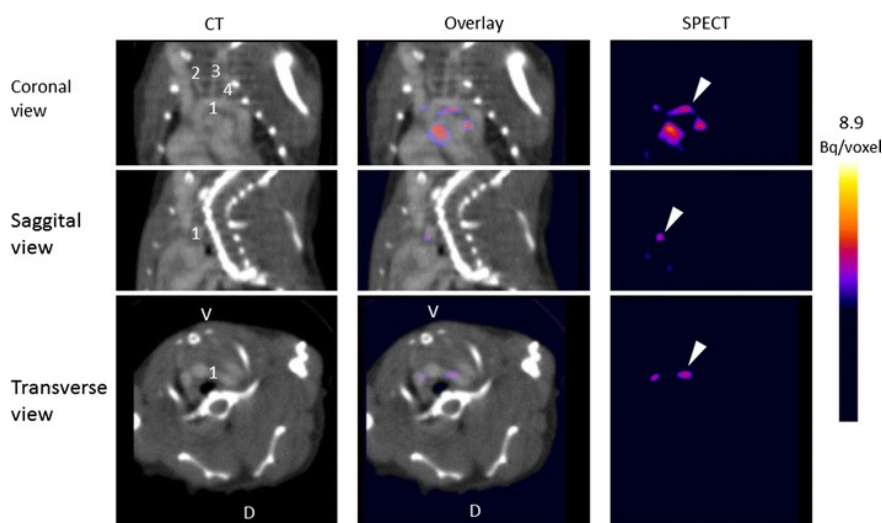


Figure 1: In vivo uptake of [111In]In-DANBIRT, targeting LFA-1 on inflammatory cells, in atherosclerotic mice. In vivo contrast-enhanced Computed Tomography (CT), Single Photon Emission Computed Tomography (SPECT), and overlay images of ApoE^{-/-} mouse thorax in coronal, sagittal, and transverse view.

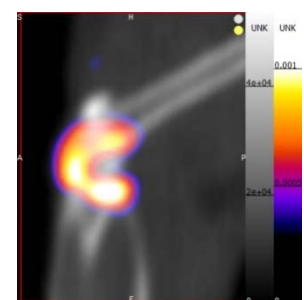


Figure 2: SPECT imaging of inflammatory macrophages in knee of a mouse with induced osteoarthritis using [111In]In-Octreotide.

References

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