

## S03-3 **Biofunction analysis using radioactive molecular imaging probes**

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Molecular imaging is a research field with the goal of advancing our understanding of biology and medicine through noninvasive in vivo investigation of cellular molecular events involved in normal and pathologic processes. Various signals such as fluorescence, luminescence, nuclear magnetic resonance, ultrasound, and radiation are being used to image molecular and cellular events in living organisms. Among them, nuclear medical molecular imaging using radioactive probes (i.e., positron emission tomography [PET] and single-photon emission computed tomography [SPECT]) plays a central role because functional images of living subjects can be obtained highly sensitively. In addition to clinical diagnosis, nuclear medical molecular imaging has been recently utilized as an analytical technique of biofunction that evaluates and visualizes biodistribution of or response to a drug in a living body in order to promote the development of medicines and medical devices. Our data regarding biofunction analysis using radioactive molecular imaging probes will be summarized in this presentation.