

## S28-3 Application of SPECT molecular imaging in drug development

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The molecular probe for single photon CT (SPECT) selectively visualizes target molecules and specific function in vivo. Therefore, it is important in the creation of the molecular imaging probe to design to reflect aimed information adequately.

So far, we have developed the molecular imaging agents which localize specifically in tumors that overexpress target molecules. We present PYK, the in vivo epidermal growth factor receptor tyrosine kinase (EGFR-TK) targeted SPECT imaging probe. PYK showed excellent tumor accumulation that correlated to the tyrosine kinase activity. In addition, PYK with SPECT imaging visualized the difference of the sensitivity for the cancer of gefitinib, well known non-small cell lung cancer drug.

SPECT imaging in conjunction with the development of molecular probes will be expected to contribute to not only the diagnostic imaging but also the drug discovery and development process in the near future.