

S16-5 Development of molecular imaging probe for bioanalysis of diseases

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Molecular imaging technique can noninvasively provide valuable information regarding expression or function of bioactive molecules using an imaging probe. The information obtained in the technique is regarded as biomarker (imaging biomarker) contributable to effective evidence of basic biochemistry and diagnosis of diseases. In addition, since the molecular imaging techniques are suited for translational research using small animals to humans, it is useful for the development of pharmaceuticals. In particular, nuclear medicine imaging (Positron Emission Tomography (PET), Single Photon Emission Computed Tomography (SPECT)) can provide images more sensitively and quantitatively, and consequently detect changes in the function of a molecule responsible for diseases at the earlier phase of the development of pharmaceuticals. Thus, we have been carrying out the research on the development of radioactive molecular imaging probes for premature diagnosis of malignant tumors. In this presentation, we introduce our recent research on the development of molecular imaging probes targeting to membrane type 1 matrix metalloproteinase (MT1-MMP) closely related to tumor malignancy, and discuss the impact of the techniques on clinical situations.