Division of Radiopharmaceutical Chemistry  
Department of Biophysical Sciences

Outline
Our research projects are directed toward development of molecular imaging agents, radiopharmaceuticals for functional diagnosis and radionuclide therapy. The present active research includes labeling nucleosides, peptides, and heteroaromatics. The use of these radiotracers constructs molecular imaging PET or SPECT targeting tumor angiogenic enzyme, somatostatin-receptor, and cell cycle regulative enzyme. Our research interests are shown below.

Faculty members
Professor: Kazue Ohkura, Ph.D.
Associate professor: Hirotake Kitaura, Ph.D.
Instructor: Nobuhiro Oshima, M.S.

Main research in progress
Development of molecular probes for in vivo analysis of biological function and application in clinical diagnosis and therapy
1) Radiopharmaceuticals for diagnosis of tumors
2) Radiopharmaceuticals for predicting anticancer agents’ efficacy
3) Radiolabeled peptides having efficiency and safety for diagnosis and radionuclide therapy of neuroendocrine tumors
4) Elucidation and imaging of molecular mechanisms of carcinogenesis

123I-IIMU imaging of mice inoculated with tumor cells
A: Coronal (top) and transverse (bottom) images of 123I-IIMU SPECT/CT
B: Immunohistochemistry for thymidine phosphorylase and hematoxylin and eosin

Current publications