Antibody labeling technology and GMP regulation at Okayama Medical Innovation Center (OMIC)

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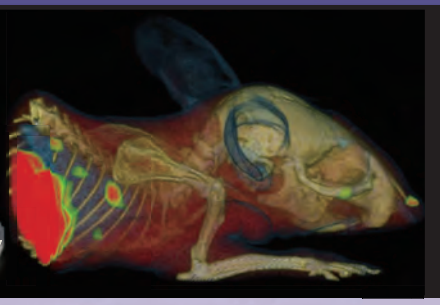
OMIC Okayama Medical Innovation Center

Molecular Imaging Provides Innovation in Future Life Science and Drug Discovery

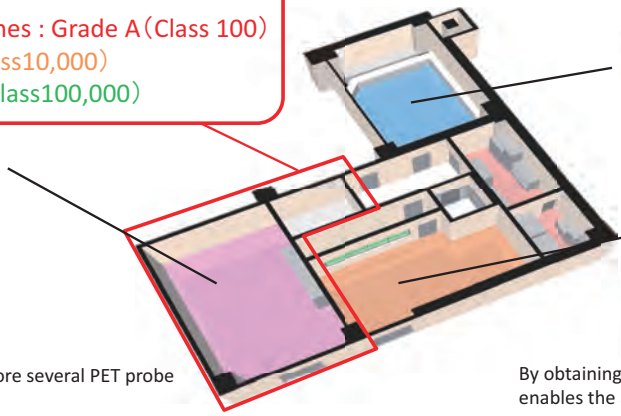


About us

OMIC is a collaborative research center at Okayama University utilizing molecular imaging techniques. We support the various stages of the drug discovery process.

Molecular Imaging Facilities at OMIC

- **GMP Area**
  - Hot cells /Clean benches : Grade A（Class 100）
  - Hot Lab : Grade B（Class10,000）
  - Pre-room : Grade C（Class100,000）



- **Cyclotron**

The cyclotron is capable of supplying ^{11}C, ^{13}N, ^{15}O, ^{18}F, and ^{64}Cu.

- **Hot Laboratory**

Two unit-type hot cells that store several PET probe synthesizers are installed.

- **PET imaging systems**

By obtaining the distribution as a tomographic image by PET, the system enables the analysis of pharmacokinetics and pharmacodynamics.

Antibody labeling technology

^{64}Cu Production

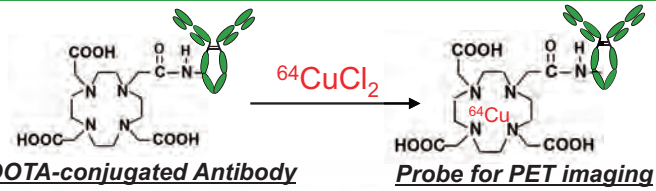
^{64}Ni target

↓ Proton irradiation, ^{64}Ni (p, n) ^{64}Cu

↓ Chemical separation
(by Metal separation/purification system)

^{64}Cu (purified)

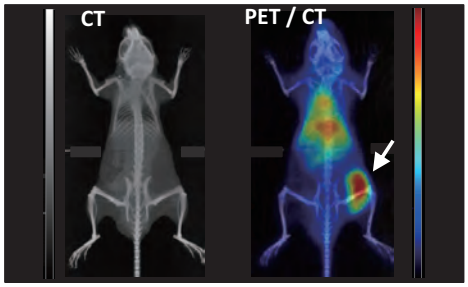
Labeling antibody with ^{64}Cu



DOTA-conjugated Antibody ***Probe for PET imaging***

Exampled application

PET Imaging by using antibody



PET imaging of tumor xenograft-bearing nude mice with the ^{64}Cu-DOTA-anti-tumor antibody
The antibody-labeled with ^{64}Cu binds to a specific tumor antigen and radioactivity accumulates in tumor lesion (white arrow)

About our Information on Website ▸ OMIC Search www.okayama-u.ac.jp/user/crc

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