In attempting to radioimmuno-detection for human malignancy, it is desired to detect a small primary lesion or micro-metastases of malignancy in early stage. In theory, the radiolabeled tumor specific monoclonal antibodies (MoAb) could be one of the ideal signals. However, clinical use of radiolabeled MoAb for human tumors has not been established.

In attempting to radioimmuno-detection for human malignancy, it was established the experimental animal model as a liststop. The nude mice bearing human mammary carcinoma were examined. The MoAb J8100 against human mammary carcinoma which has been established its specific reactivity by mean of ELIS assay and tissue staining, was radiolabeled with 131I by iodogen method and used to image in vivo. After the intraperitoneal injection of radiolabeled MoAb (24-120h) the mouse was imaged by γ-camera with pinholecollimator.

As a result, progressive accumulation of radio-labeled antibody was observed in mammary carcinoma during 96h after injection. γ-camera images. As 2nd experiment, to confirm the characteristics of binding specificity of the radio-labeled MoAb to only human mammary carcinoma (not other human malignancies), a nude mouse implanted two kinds of human tumors: mammary carcinoma & gastric carcinoma. The mice bearing two tumors were given intraperitoneal injection of radiolabeled MoAb and imaged as above describer their tumors were removed and counts/weight were measured to calculate the ratios. As a result after injection 96h the highest accumulation wasnoted in mammary carcinoma whereas no accumulation in the control gastric carcinoma. This study demonstrated that this 1-191 labeled MoAb well preserved its binding specificity to human mammary carcinoma in vivo as well as in vitro assay.