

Radioimmuno-detection of human pancreatic tumor xenografts using DU-PAN II monoclonal antibody

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The potential of DU-PAN II, monoclonal antibody (IgM), which was raised against the human tumor cell line, was evaluated for radioimmuno-detection of human pancreatic tumors (PAN-5-JCK and EXP-58) grown in nude mice. ^{125}I -labeled DU-PAN II was accumulated into PAN-5-JCK producing DU-PAN II antigen with a tumor-to-blood ratio of 2.72 ± 3.00 , but it did not localize in EXP-58 because of insufficient DU-PAN II. There was no significant uptake of ^{125}I -nonimmunized IgM in PAN-5-JCK. These facts indicated the specific tumor uptake of DU-PAN II. Excellent images of the tumor PAN-5-JCK were obtained 3 days after the injection of ^{125}I -DU-PAN II. Gel chromatography was also investigated with respect to the plasma taken from mice injected with antibody, or incubated with antibody *in vitro*. The results indicate that circulating antigen affected the tumor uptake of DU-PAN II: The more the tumor grew, the higher the amount of antigen excreted into the blood, leading to the degradation of DU-PAN II before it reached the tumor sites. Consequently, the immunoscintigram of the small tumor was remarkably clear. The catabolism and the radiolysis of the labeled IgM injected are critical points in applying immunoscintigraphy.

Key words: Radioimmuno-detection, Human pancreatic tumor, DU-PAN II