

Radioimmunoscinigraphy of advanced gastrointestinal carcinomas employing I-131 labeled CEA-79 monoclonal antibody

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CEA-79 is a murine IgG2a type monoclonal antibody (MoAb) generated using purified CEA from culture supernatants of a human colon cancer cell line, LS174T. The association constant and immunoreactivity of the I-131 labeled CEA-79 ranged from 2.0 to 3.2×10^9 l/mole, and from 54 to 74%, respectively. The purpose of this study was to evaluate the feasibility of radioimmunoscinigraphy employing MoAb CEA-79 in patients with advanced gastrointestinal carcinomas. Two mgs of MoAb CEA-79 was labeled with 111 MBq (3 mCi) of I-131, and infused intravenously in 6 stomach cancer and 16 colon cancer patients. Out of 6 patients with stomach cancer, immunoscintigraphy was able to detect the tumors in 4 cases. However, immunoscintigraphy found out tumors in all patients with colon cancer. Moreover, 1 patient with stomach cancer and 2 patients with colon cancer showed increased uptake of MoAb in the tumor lesions despite normal serum levels of CEA. We could conclude that this antibody has a potential as a new imaging agent for the diagnosis of gastrointestinal carcinoma.

Key words: radioimmunoscinigraphy, carcinoembryonic antigen, monoclonal antibody, gastrointestinal carcinoma