

## Variations in radioimmunoscintigraphic detection of tumor showed by five monoclonal antibodies to carcinoembryonic antigen

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Radioimmunoscintigraphy using mouse monoclonal antibodies to various parts of a carcinoembryonic antigen (CEA) molecule was performed. Four radiolabeled antibodies (F4-82, 28A, F3-30, F33-104) were injected into tumor transplanted nude mice to compare the accumulation of these antibodies in tumors. The four antibodies were accumulated selectively in CEA-producing tumors. The tumor visualization correlated with the tumor/blood radioactivity ratio, whereas the tumor/blood radioactivity ratio did not correlate with the *in vitro* percent binding to tumor cells or the *in vivo* percent injected dose in CEA-producing tumors. Among the four antibodies, F33-104 showed the highest tumor/blood radioactivity ratio and the best image quality in any CEA-producing tumor. These results suggest that the antibody which has a high tumor/blood ratio rather than high total tumor uptake may be useful for radioimmunoscintigraphy.

**Key words:** monoclonal anti-CEA antibody, radioimmunoscintigraphy, tumor/blood radioactivity ratio