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## Evaluation of $^{99m}\text{Tc}$ -Labeled Amino Acids as Radiopharmaceuticals.

### V. $^{99m}\text{Tc}$ Complexes of Ethylenediamine-*N, N*-diacetic Acid as a Scintigraphic Agent for Tumors\*

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We found that intramuscularly transplanted Ehrlich tumor was clearly visualized in scintigrams of mice a few hours after the administration of  $^{99m}\text{Tc}$  complex of ethylenediamine-*N, N*-diacetic acid ( $^{99m}\text{Tc}$  EDDA). This finding prompted us to study the *in vivo* behavior and scintigrams of  $^{99m}\text{Tc}$  EDDA in mice and other animals bearing various experimental tumors. The animals used were mice bearing Ehrlich ascites tumor, mice bearing Sarcoma 180, golden hamsters bearing lymphoma, mice bearing fibrosarcoma induced by 3-methylcholanthrene (MC), rats bearing MC-induced fibrosarcoma that had been transplanted at the limb and had spontaneously metastasized to the lung, and mice bearing spontaneous mammary carcinoma.

The tumor tissues were clearly visualized on scintigrams of experimental animals 2–5 h after the administration. In mice bearing Ehrlich tumor, the ratios of radioactivity in tumor/blood and in tumor/muscle were 3.32 and 7.96, respectively, 3 hour after the administration. An abscess and an inflammation in animals were also scintigraphically visualized initially but their images were obscured 4 hour after the administration.

The results suggest that  $^{99m}\text{Tc}$  EDDA is a promising new radiopharmaceutical for the tumor scintigraphy.

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