REPLY: In response to the letter of Dr. Ballinger and Mrs. Gulenchyn we would like to comment that we now have evidence that, unlike our previous beliefs, thallium-201 (^{201}Tl) chloride and thallium-201 DDC behave differently.

In brain tissue culture uptake of DDC is faster and washout slower than that of [^{201}Tl]chloride. The finding of limited stability of [^{201}Tl]DDC in chloroform is not opposed to a difference in uptake mechanism, since this condition is not comparable to in vivo circumstances. Nevertheless, it is a most interesting finding.

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Toxicity of Indium-111 on Lymphocytes

TO THE EDITOR: A paper recently appeared in your journal (*1*) showing lymphocyte damage after labeling with the indium-111 (^{111}In) tropolone complex and the authors concluded that this is caused by both indium (or its decay product cadmium) and tropolone.

We noted with some surprise that no reference was made to our previous work on this subject which dealt directly with the toxic effects of [^{111}In]oxine complex on lymphocyte function and the possible detrimental effects of indium chelates on two different lymphocyte functions (*2–3*).

Our conclusions were that the [In]oxine complex impairs the mixed lymphocyte reaction but not the mitogen (PHA) induced proliferative response, the latter finding is in discordance with the findings of Balaban et al. Our opinion is that the labeling conditions also play a relevant role in lymphocyte toxicity. Firstly both ourselves and other authors (*5*) agree that the ^{111}In concentration should not exceed 0.2 μCi/10^6 lymphocytes.

As far as tropolone is concerned we used 25 μ/ml/10^8 cells and then incubated in plasma for 7 min. In contrast Balaban et al. used tropolone at a concentration of 25 μg/ml/10^6 cells and incubated in RPMI for 15 min. Our labeling procedure was proved to be very gentle, giving both high labeling efficiency (>70%) and low lymphocyte toxicity.

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REPLY: In reply to the letter of Signore et al., we agree that a variety of injuries have been previously identified with all labeling procedures by a number of investigators. We did not intend to provide an all-encompassing bibliography, but we do apologize to Dr. Signore and his colleagues.

The focused purpose of our paper was the *mechanism* of cellular toxicity (*1*). Parenthetically, we used a series of concentrations of both indium-111 (^{111}In) and tropolone with the intention of provoking baseline assessable cellular toxicity. It is clear that labeling conditions play an important role in toxicity as we, too, have previously reported (*2*). We have found that the best tolerated chelating conditions for our in vitro studies require a smaller amount of tropolone (5 μg/10^6 cells is acceptable) and an incubation period limited to 10–15 min (*1,2*). As for the "ideal" (least amount) of ^{111}In to use for labeling, our tabulated findings (*1*) indicate that labeling with smaller amounts of ^{111}In (as well as tropolone) would result in less cellular toxicity. The difficulty in defining "ideal conditions" in any in vitro system is attempting to correlate these concentrations with "ideal" in vivo imaging results.

In our previous studies (*2*), as in studies by others (*3,4*), we did not find the selected subset lymphocytic toxicity suggested by Signore and his colleagues (*5*).

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