A/A_o against t, a method now in danger of being forgotten with the proliferation of inexpensive pocket calculators.

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Electrolytic Complexing of Glucoheptonate and Technetium-99m

Recently Chi, Hoag, and Yanchick (*1*) reported in the *Journal* on the 'Electrolytic Complexing of Glucoheptonate and Technetium-99m." We would like to point out a typographical error and make several comments regarding the authors' conclusions.

The typographical error occurred with the listing of a commercial glucoheptonate kit containing 200 g of glucoheptonate. It should have read 200 mg of glucoheptonate.

The apparent advantage that Chi et al. (*1*) propose for their electrolytic glucoheptonate relies on its reported greater stability over the commercially available kits. We have been using commercially available glucoheptonate for more than 2 years, during which time we have prepared approximately 500 vials, and we have not had a vial produce a tag below 95%. In an attempt to determine the reason for the conflict in results, we compared the chromatography systems used by Chi et al. (*1*) with the systems used in our laboratory. We use ITLC-SG in acetone to determine the Tc+7 state and ITLC-SG in normal-saline to determine the unbound Tc+4 state. Two commercially available glucoheptonate kits were reconstituted according to manufacturers' instructions, and the initial chromatographic analysis was performed within 15 min. Further analyses were performed each hour thereafter for 8 hours after reconstitution.

Chromatographic analysis was accomplished by spotting three ITLC-SG strips per vial at each time period. Each strip was N_2 dried before it was placed into either acetone, MEK, or normal saline. Upon completion of development, the strips were allowed to dry and were then counted on a NaI(Tl) well counter adapted with a radiochromatogram-well-adapter designed by Gutowski (*2*). Determination of the percent label was identical to the method discussed by Chi et al. (*1*). The experiment was conducted twice and Table 1 shows the average of the two runs.

Table 1 indicates that neither commercial glucoheptonate kit exhibited any significant breakdown in the eight-hr period whether the solvent system was MEK or acetone. We cannot explain why Chi et al. (*1*) should have found such low labeling yields. Our data in this experiment and our past experience show that commercially available glucoheptonate kits are very stable. We therefore dispute the assertion made by Chi et al. (*1*) that a time-consuming electrolytic production of glucoheptonate offers any advantage over the commercially available system now in use.

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Reply

We are indebted to Gunther et al. for pointing out the typographical error concerning the quantity of glucoheptonate contained in the commercial kit—200 mg, not 200 g.

The data reported in their letter, however, are in direct conflict with the results found in our study (*1*). We, too, cannot explain this difference. Our results were reported exactly as determined, and we did indeed find both a lower labeling yield and reduced stability with commercial stannous glucoheptonate when compared to the electrolysis product. Perhaps the differences reflect kit variability.

Whatever the reason, the differences in results further demonstrate the need for accurate quality control procedures for all radiopharmaceuticals.

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TABLE 1. STABILITY OF COMMERCIAL Tc-99m(Sn) GLUCOHEPTONATE

	% total label after standing time (hr)								
	.25	1	2	3	4	5	6	7	8
Product 1									
A	99.6	99.7	99.3	97.9	99.0	97.6	95.8	97.0	95.0
B	99.2	99.9	98.0	95.7	98.9	97.5	97.8	96.5	93.0
Product 2									
A	98.6	98.0	97.2	95.7	94.9	96.6	96.4	96.2	96.6
B	98.6	98.0	97.2	95.7	94.9	96.6	96.0	96.0	96.5

A. Acetone, Normal-saline. B. MEK, Normal-saline.