

tion no remarkable fall of purity was observed some 2 weeks after production, and subsequently evidence of deterioration became noticeable.

Accordingly, fat absorption test after D. Berkowitz is practically done in our laboratory utilizing only the reliable radiopharmaceuticals which proves usable in the above-mentioned purity, assays.

The normal blood levels of Triolein and Oleic Acid in adults before meals proved to be within the range of 9 to 16 percent at 3 hours; in infants, at 4 to 6 hours, within the

range of 8 to 14 percent with Triolein and 9 to 16 percent with Oleic Acid.

In the meantime, a study with new products recently conducted showed an improvement in quality, without detectable deterioration even at 3 weeks, which fact practically is hopeful in our attempt of making the right interpretation of results obtained.

It is consequently desirable to perform purity assay before each examination, which is of great importance in interpretation of the results.

### The effect of pH on In-113m distribution

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The use of In-113m has been recently increasing for organ scanning because of its favourable characters. Labelled compounds have to be prepared right before clinical use. The range of pH value of In-113m solution to be used for this purpose must be adjusted strictly within certain range. This is a troublesome work for user. In-113m labelled compounds for blood pool scan and liver scan have been prepared in the same manner, but only difference was pH of the solution.

We studied experimentally the effects of pH on In-113m distribution in the mice, in order to make it clear how precisely pH should be adjusted.

#### Method:

20 groups of white mice were used. Each groups was consisted of approximately 5 mice. 0.5 ml of In-113m solution was injected into the lateral tail vein. Liver, lung, heart, kidney and spleen were removed at one hour after injection.

Activity of In-113m to each organ was measured by scintillation counter. The method of preparation of In-113m was as follows. In-113m was eluted with 5 ml of 0.04 N hydro-

chloric acid, then added 0.6 ml of 10% NaCl and 1 ml of 10% gelatin. The final pH of this solution was adjusted with 2% and 0.1% NaOH to be the preselected values within pH 2.5-11.5.

#### Results:

1. In-113m distribution to the lung was approximately 2% at pH 2.5-10.5, 5% at pH 11.5 without water bath and 10% at pH 11.5 with water bath.  
Lung scanning with In-113m prepared by this method appeared to be inadequate for practical use.
2. Activity of In-113m in blood was high in pH 2.5-3.5.  
Therefore, blood pool scanning can be done sufficiently with In-113m solution with this pH value.
3. The liver concentration reached approximately 80% in pH 8.5-9.5 and over 50% in pH 7.5-10.5.  
Water bath made higher the liver contraction. It was found that In-113m for liver scanning did not necessarily require strict adjustment of pH!