Lloyd reagent both give the reaction and there is a marked lessening in color intensity when the extract is made of the second shaking of Lloyd reagent.

6. That the color is due in part to the vitamine is shown by the fact that a portion of the extract carried through the complete Funk preparation process gives the color strongly.

7. The color can be obtained with the aid of the centrifuge in a clear form usable against a uric acid standard.

These results show that the substance adsorbed by the Lloyd has the power to give the color reaction and indicates that there is also present some substance other than vitamine which has this power. Granting this fact, however, the results offer a method of standardizing dosage that seems to give promise of practical value.

96 (1274)

Lipoid-free immune serum does not produce passive immunity to transplanted tumors.

By G. L. ROHDENBURG, M.D. (by invitation).

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Although it has been repeatedly attempted, no one has succeeded in transferring immunity to transplantable tumor in animals by injecting the serum of immune animals. Our experiments on passive immunity, duplicating in part the work of others, have also led to negative results, and are recorded simply to add to the existing data.

Serum was obtained from normal rats, from rats immune to inoculations of the Flexner-Jobling rat carcinoma, and from guinea pigs sensitized by three injections of the Flexner-Jobling tumor in doses of 1 gm. These sera were injected daily in doses of 1 c.c. for nine days previous to an inoculation of 0.003 gm. of the Flexner-Jobling tumor, and a control series of non-injected animals was inoculated at the same time, twenty-five animals being used for each series. Four weeks after inoculation, no immunity was demonstrable in any of the treated groups, which showed from 88 to 92 per cent. takes, as compared with 92 per cent. takes in the control groups.

Serum from rats immune to the Flexner-Jobling carcinoma was extracted with chloroform in order to remove the lipoids which, as has been demonstrated by Jobling and his co-workers, inhibit the proteolytic ferments present in that fluid. The lipoid-free serum was injected subcutaneously into a group of 17 rats in doses of 1 c.c. for seven successive days. Three days after the last injection, these animals and a group of seven controls were inoculated with 0.003 gm. of the Flexner-Jobling rat carcinoma.

Three weeks after inoculation, the animals injected with lipoid-free serum showed 100 per cent. takes as compared with 85 per cent. in the controls. It may be concluded, therefore, that lipoid-free serum, like non-lipoid-free serum, when obtained from immune animals, does not cause passive immunity.

97 (1275)

Relative utilization of free palmitic acid, glyceryl palmitate and ethyl palmitate by dogs.

By **J. F. LYMAN** (by invitation).

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Digestibility of fats depends on several factors which may be grouped as: (1) mechanical, *e. g.*, melting point which determines the rate of gastric discharge[1] and, to a considerable extent, the degree of emulsification; and (2) chemical which determines the character of the products of digestion and the rate of hydrolysis, certain esters of fatty acids, *e. g.*, cetyl palmitate,[2] being attacked very slowly by pancreatic lipase. There is strong evidence for the belief that unchanged esters in a finely emulsified form can not be absorbed by the intestinal mucosa.[3] The facts presented here support this view and agree with the thesis of Terroine[4] that absorption of fats is limited by the rapidity of hydrolysis.

[1] Tangl, F. and Erdelyi, A., *Biochem. Zeitschr.*, 34, 94.
[2] Munk, I., *Archiv. f. (Anat. u.) Physiol.*, 1890, 581.
[3] Bloor, W. R., *J. Biol. Chem.*, 15, 105, 1913.
[4] Terroine, E. F., *J. de physiol.*, 1911, 695.