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An unidentified base among the hydrolytic products of gelatin.

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Further preparations of the base isolated by Van Slyke and Hiller[1] have been studied. The analyses of the copper salt indicate the composition $(C_7H_9O_4N_2)_2$ Cu. The substance gives the reactions for a pyrrol group. The ratio of 1:2 for amino N: total N determined by Van Slyke and Hiller is confirmed. The behavior and analyses indicate that it may have the structure of a dihydroxy-pyrrol-alanine.

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Studies on the purification of antibodies. V: Nature of the pyrogenic factor in pneumococcus antibody solution.

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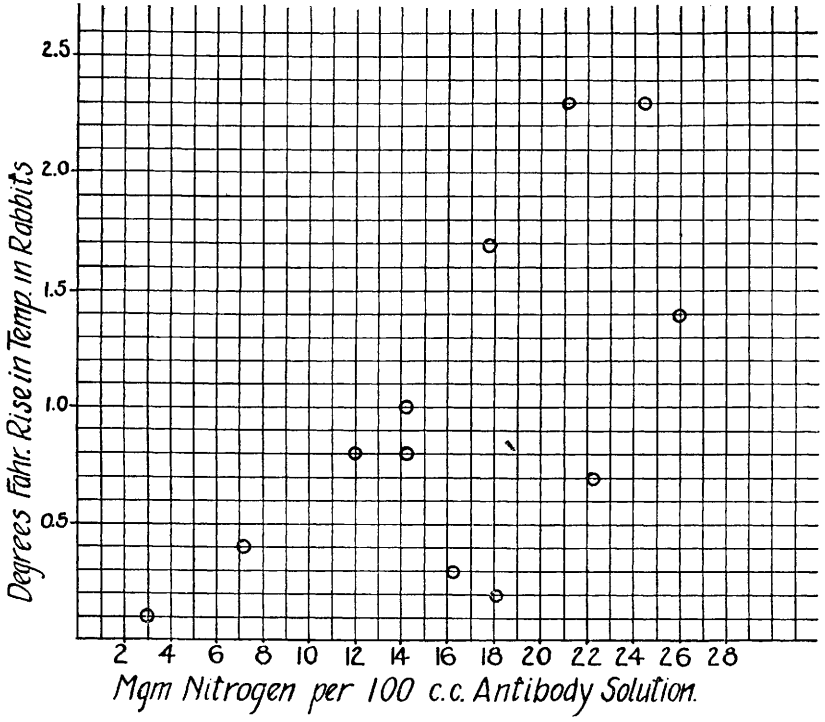
In connection with the preceding studies on purification of pneumococcus protective antibodies, it is of practical importance to know what is the reason for the occurrence of febrile reactions following the intravenous injections of the solution. The various batches of material that we prepared were tested for pyrogenic property by injecting 5 cc. amounts intravenously into rabbits and observing their temperatures for three hours.

The results which are presented on the accompanying chart indicate that the temperature rise is proportional to the amount of nitrogen present in these extracts. It will be noted that there are four results which fall outside the regular line. These show

[1] Van Slyke, D. D., and Hiller, Alma, *Proc. Nat. Acad. Scie.*, 1925, vii, 185.

a large amount of nitrogen, but very small temperature rise. Since the nitrogen determinations were done by the regular Kjeldahl method, it is impossible to say in what form this nitrogen was. On the other hand, it will be noted that in no case in which there was a small amount of nitrogen was there a temperature rise of over 1° F. These data, therefore, while rather



meagre, point to the nitrogenous nature of the pyrogenic factor. Since preceding studies by Huntoon and others indicate that the nitrogen present in these extracts comes from the bacteria and not from the antibody-bearing-serum, it seems fair to conclude that the pyrogenic factor is not inherent in the antibodies, but is derived at least in part from the sensitized bacteria.

If the nitrogenous material derived from the antigen is the pyrogenic factor in antibody solutions, then removal of extraneous nitrogenous material by methods, such as outlined in our

previous communication, may be of value in practical preparation of antibody solutions for therapeutic use.

The material and animals used in this study were generously furnished by the H. K. Mulford Co., Glenolden, Pa., through the courtesy of Dr. F. M. Huntoon.

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L. acidophilus in epilepsy.

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Since the gastro-intestinal tract has long been under suspicion in epilepsy, it appeared worth while to study the transformation of the intestinal flora effected by *L. acidophilus,* and any influence this effect might have upon the number of convulsions. A series of 15 epileptics were carefully observed for one month. Twelve of these then received one litre of sterile milk daily for 42 days. All 15 patients were then given one litre of *L. acidophilus* milk daily for 2 to 3 months. The methods employed have been described elsewhere.[1]

Three patients had only one convulsion per month, or less, and are therefore disregarded. Of 12 other patients studied, 4 showed a rather striking reduction in the number of convulsions. One of these, who had 122 convulsions in 23 days during the 28-day preliminary period, had an average of 5 convulsions per month for the three months during which he received *L. acidophilus* milk.

Epileptics are notoriously prone to show improvement under almost any form of treatment, but in view of the sterile milk control and another control group of epileptics who showed little benefit from kaolin administration at the same time, these results seem encouraging enough to enlarge the series. Further work is now in progress.

[1] Kopeloff, N., *Lactobacillus Acidophilus,* Williams & Wilkins Co., Baltimore (in press).