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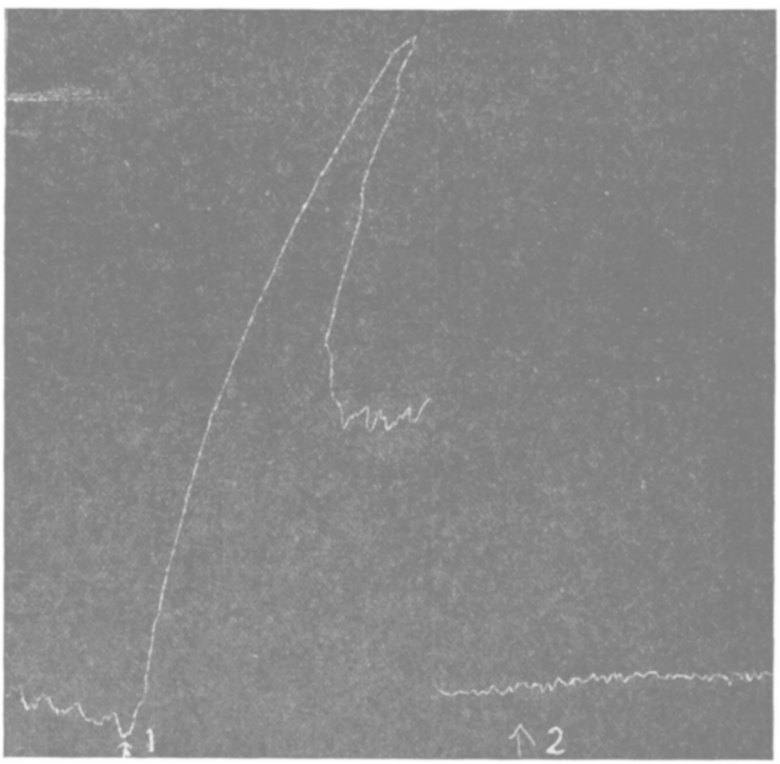
Chemical Inactivation of Histamine.

E. GEBAUER-FUELNEGG. (Introduced by C. A. Dragstedt.)

From the Department of Research Bacteriology, Northwestern University Medical School.

The inactivation of histamine can be accomplished by a variety of means. Some of its physiological actions are antagonized by a proper dosage of adrenalin or related compounds. A specific oxidative enzyme—histaminase—is found in certain organs capable of destroying the base.[1] The addition of formaldehyde to surviving smooth muscle preparations previously contracted by histamine was shown to relax the muscle. As an explanation the formation of a



1 = .003 mg. Histamine-2 HCl. 2 = 1.0 mg. Histamine + 2 mols. Pauly.
FIG. 1.

[1] Best, C. H., and McHenry, E. W., *J. Physiol.*, 1930, **70**, 349.

physiologically inactive histamine-formaldehyde complex was postulated.[2] The following observation is an addition to the above list of inactivation methods.

It was found, that if to histamine solutions of known concentration are added 2 mols. of diazotized sulfanilic acid in the presence of Na_2CO_3 the resulting dye (Pauly's reaction) will not contract the surviving intestinal strip of the guinea pig if the solution is brought to a physiological pH. On the other hand an insufficient molar quantity of the diazonium compound will cause only a partial inactivation of the base. This observation was found to be useful when the presence of histamine is suspected in biological extracts, etc. Because of the possibility that the tyramine-diazotized sulfanilic acid condensation product would also result in an inactivation of the tyramine or an analogous effect might be observed if smooth muscle contractive protein split products were treated as above, this test should be taken only as additional evidence for the presence or absence of histamine.

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Gelatin as an Opsonizing Substance.

W. J. NUNGESTER AND SAMUEL LIPSTEIN.

From the Department of Bacteriology and Patten Research Laboratories, Northwestern University Medical School.

Since the introduction of the term opsonin by Wright and Douglas the conception of the mechanism of action of opsonins has rather constantly tended to point toward a deposition of such substances on the surface of the particle to be phagocytized. Recent studies are well exemplified by the experiments of Mudd, Lucké, McCutcheon and Strumia,[1] who have shown that the globulin fraction of immune sera contains a substance or substances which will unite with the antigen, bacterial cells or inert colloidal particles coated with a protein, in such a fashion that surface properties of the antigen as cohesiveness and cataphoresis are altered in association with such immunological reactions as agglutination and increased phagocytosis.

[2] Kendall, A. I., *J. Infect. Dis.*, 1927, **40**, 689; see also ref. 1.

[1] Mudd, Lucké, McCutcheon and Strumia, *J. Exp. Med.*, 1929, **49**, 779; 1930, **52**, 313.