vivo experimentation[5] indicate that when given daily in doses of 1 mg per g for 6 days, the acyl aminobenzenesulfonhydroxamides and sulfanilamide possess approximately the same therapeutic activity against pneumococcus infection in mice.

Summary. The acyl aminobenzenesulfonhydroxamides have strong anti-catalase activity and, when present in broth cultures of the pneumococcus, cause inhibition of growth associated with increased accumulation of hydrogen peroxide. When the caproyl compound is added to growing cultures, inhibition of growth is detectable almost immediately but reaches a maximum only after time for accumulation of peroxide has elapsed. Inhibition by sulfanilamide, on the other hand, is detectable somewhat later and approaches a maximum more slowly.

11275

Gonadotropic Potency of Gonadectomized Rats' Pituitary after Tryptic Digestion.

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The evaluation of the amount of the follicle-stimulating and luteinizing hormones of the pituitary of normal as well as gonadectomized animals has interested a number of investigators. The recent reports of McShan and Meyer[1] and Chen and van Dyke[2] on tryptic digestion of pituitary extract appear to afford a convenient means of estimating the relative amounts of these fractions, as the luteinizing activity is largely destroyed by trypsin to which the follicle-stimulating activity is resistant. In the following experiments the gonadotropic activity of castrate rats' pituitary following tryptic digestion was compared with that of the castrates' pituitary not subjected to such treatment.

The donors of the pituitary consisted of 24 male and 38 female albino rats which were gonadectomized at the age of 1-3 months. Three to 6 months (usually 3 months) after gonadectomy, the animals were sacrificed. The anterior pituitary was obtained, weighed, and ground up fresh in an appropriate quantity of 0.02%

5 Cooper, F. B., Gross, P., and Lewis, M., PROC. SOC. EXP. BIOL. AND MED., 1940, **43**, 491.

1 McShan, W. H., and Meyer, R. K., *J. Biol. Chem.*, 1938, **126**, 361.

2 Chen, G., and van Dyke, H. B., PROC. SOC. EXP. BIOL. AND MED., 1939, **40**, 172.

TABLE I.
Gonadotropic Potency of Male and Female Castrates' Pituitary Before and After Tryptic Digestion.

Group	Type of pituitary*	Total dose, mg	No. of immature rats	Mean and S.E. of paired ovarian wt, mg	Mean and S.E. of uterine wt, mg	Groups compared	P† ovaries	P† uterus
1	F	5.0	9	69.76 ± 4.90	82.10 ± 3.61	1-2	.0	.17
2	F, T	10.0	12	23.73 ± 1.42	63.77 ± 10.66	1-3	.66	.88
3	M	5.0	10	66.65 ± 4.74	82.89 ± 4.45	2-4	.65	.06
4	M, T	10.0	10	22.81 ± 1.33	40.35 ± 1.67	3-4	.0	.0
5	FSH	1.0	10	52.27 ± 8.70	96.70 ± 6.68	5-6	.69	.33
6	FSH, T	1.0	11	47.55 ± 7.00	81.88 ± 9.96			

* F—Female castrate; M—Male castrate; FSH—Follicle-stimulating hormone; T—Trypsin-digested.

† Probability that random sampling would give as great a difference according to Fisher's method[3] for testing significance of difference of means.

[3] Fisher, R. A., *Statistical Methods for Research Workers*, Oliver and Boyd, Edinburgh, 1936.

Na_2CO_3 solution. To an aliquot portion of the material sufficient trypsin* was added to make 0.05%. A second portion was left without trypsin. The pH was adjusted to approximately 9.6 (thymol blue). Both portions were incubated for 2 hours at 38°C. The pH was then adjusted to about 7.6 (bromthymol blue) and 0.2 mg of merthiolate per cc was added to each solution. These were assayed in littermate 21-day female rats. In all cases the total dose was contained in 4 cc given in 8 equal subdoses over 4 days. When not in use, the solutions were kept at 4°C in the refrigerator.

The results of the experiments are summarized in Table I. Five mg of the male and the female castrates' pituitary not digested with trypsin contained clearly greater gonadotropic activity than 10 mg of the castrates' pituitary following its digestion by trypsin. It thus appeared that the amount of trypsin-digestible fraction (*i. e.*, the luteinizing activity) was considerable in both the male and female. Furthermore there appeared to be no sex difference in the gonadotropic potency of the pituitary either with or without tryptic digestion in the gonadectomized rat. Under the conditions of the experiment a sample of follicle-stimulating hormone from sheep pituitary was not significantly affected by similar treatment.

A few sections of the ovaries of Groups 1 and 3 revealed varying degrees of luteinization. The number of sections studied, however, did not permit a statement as to the relative degree of luteinization in respect to sex. With the dose level used in Groups 2 and 4, no luteinization was present in any ovaries.

Summary. The gonadotropic potency of the pituitary of spayed and castrated rats was determined in the immature female rat before and after tryptic digestion. There was a great reduction of potency of the pituitary following digestion by trypsin in both the male and female.

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* From the Central Scientific Company of Chicago.