

with other pituitary hormones, as determined by bioassay methods, has not yet been investigated.

This method for preparing growth hormone uses only very mild conditions and involves a minimum number of steps. It has been applied successfully to the preparation of growth hormone from quantities of fresh, whole glands, ranging from 7 gm. to 200 gm. and using columns containing 20 gm.-150 gm. of DEAE-cellulose. There appears to be no difficulty in extending the method to either smaller or larger quantities of starting material.

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¹ Wilhelmi, A. E., *Hypophysial Growth Hormone—Nature and Actions*, edit. by Smith, Gaebler and Long (McGraw-Hill, 1954).

² Papkoff, H., and Li, C. H., *Biochim. Biophys. Acta*, **29**, 145 (1958).

³ Li, C. H., Evans, H. M., and Simpson, M. E., *J. Biol. Chem.*, **159**, 353 (1945).

⁴ Wilhelmi, A. E., Fishman, J. B., and Russell, J. A., *J. Biol. Chem.*, **176**, 735 (1948).

Acute Effect of Three Antibiotics on Diuresis in the Rat

ONE of the side effects limiting the use of some polymyxins is renal toxicity.

Sodium colistimethanesulphonate, a new antibiotic with a spectrum of activity very similar to that of the polymyxins, but with much lower systemic toxicity¹, was investigated for its effects upon urinary volume output and was compared in this respect with two polymyxins.

The influence of the administration of each antibiotic upon diuresis was estimated by measuring, after treatment, the urinary output in ml./kgm./hr., 2 and 5 hr. after administration of a water load. This was done in groups of 20 male Wistar rats of approximately 360 gm. which were used twice consecutively in the following manner: first, the normal urinary volume output figures were determined for each group; 2 days later, the same procedure was repeated, each group receiving subcutaneously its respective antibiotic treatment at the same time as the intragastric water load. Each time the rats were starved (food and water) for 18 hr. before intragastric administration of a 50 ml./kgm. tap water load. The animals were then placed in metabolic cages without

food and water and their urinary excretion was recorded at 2 and 5 hr., aggregated, and computed as indicated in Table 1.

The results at 2 and 5 hr. indicate that a very marked inhibition of diuresis occurred with all doses of either polymyxin B or colistin sulphate up to 1.67 mgm./kgm., whereas doses of sodium colistimethanesulphonate up to 1.67 mgm./kgm. tended to increase diuresis. However, inhibition of diuresis was observed also with sodium colistimethanesulphonate at doses above 1.67 mgm./kgm., but it was necessary to administer as much as 16.7 mgm./kgm. in order to obtain a degree of inhibition similar to that noted with 1.67 mgm. of the two other antibiotics. This indicates that, of the three antibiotics tested, sodium colistimethanesulphonate interferes much less with urinary function, a fact that may explain its higher margin of safety.

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¹ Schwartz, B. S., Warren, M. R., Barkley, F. A., and Landis, L., *Antibiotics Annual*, 1959-1960, 41 (Antibiotica, Inc., New York, 1960).

Preparation and Properties of Purified House Dust Allergen

ALTHOUGH house dust allergens have been the subject of many investigations¹, attempts to establish the chemical identity of the specific house dust antigen thus far have met with very little success. This is partly due to the complex nature of crude house dust extracts, which, apart from non-specific toxic substances, contain many other allergens as well (derived from feathers, human and animal dandruff, etc.).

Boatner and Efron² were among the first to indicate the general protein nature of active preparations from house dust. Rimington *et al.*³, in a more detailed study, obtained a purified dust fraction which was found to contain two electrophoretically distinct components of similar chemical composition and skin reactivity. The substance was found to give both protein and carbohydrate reactions. Recently, Vannier and Campbell⁴ reported the isolation of a purified dust allergen which they estimated to contain 95 per cent carbohydrate and 5 per cent protein.

Table 1

Control run						Experimental run										
No. of rats		Urinary volume output				Treatment (s.c.)	Dose/kgm. (mgm. base)	No. of rats		Urinary volume output				Per cent change from the controls		No. of rats with macroscopic peripheral vasodilation
Initial	Final	Total (ml.)		ml./kgm./hr.				Initial	Final	Total (ml.)		ml./kgm./hr.		2 hr.	5 hr.	
		2 hr.	5 hr.	2 hr.	5 hr.					2 hr.	5 hr.					
20	20	88	195	5.77	5.14	Polymyxin B sulphate	0.20	20	20	52	196	3.51	5.28	-39.2	+2.7	0
20	20	113	250	7.55	6.64	" "	0.50	20	20	5.3	29.9	0.35	0.79	-95.4	-88.1	10
20	20	99	247	6.60	6.58	" "	1.00	20	20	3.7	10.7	0.25	0.28	-96.2	-95.7	12
20	20	92	245	6.35	6.78	" "	1.67	20	18	6.4	6.4	0.45	0.18	-92.9	-97.3	20
20	20	96	281	6.33	7.46	Colistin sulphate	1.67	20	20	6.1	31	0.41	0.82	-93.5	-89.0	20
20	20	81	218	5.09	5.49	Sodium colistimethanesulphonate	0.83	20	20	108	265	6.98	6.83	+37.1	+26.3	0
20	20	115	233	8.27	6.68	" "	1.67	20	20	117	285	8.3	8.1	+0.004	+21.3	0
20	20	111	242	7.92	6.92	" "	3.33	20	30	86	216	6.1	6.1	-23.0	-11.8	0
20	20	93	245	6.30	6.63	" "	6.67	20	20	15	21	1.0	0.56	-84.0	-91.6	20
20	20	87	219	6.09	6.14	" "	16.7	20	5	6.4	6.8	0.46	0.19	-92.4	-96.9	20