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Fractionation of Gelatin by Ion-Exchange Resin

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The figure shows the fractionation of rat bone gelatin (obtained with 50-fold volume of water at + 100°C for 12 h). The resin (Amberlite CG-50, 100—200 mesh) was equilibrated with pH 5.5 citrate buffer (McIlwaine) and used as 15 × 1 cm column, which was eluted first at room temperature with the same buffer and later at + 37°C with 0.1 N NaOH as described by Russell[1]. Fractions of 2 ml were collected (numbers are indicated) and protein estimated with a modified biuret reaction (Lowry). The first peak differred in amino acid composition from gelatin, the second and third resembled each other and gelatin. The fourth peak is not constant and its amino acid composition is not known.

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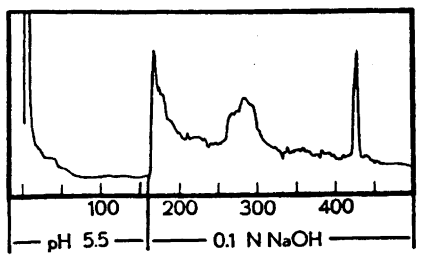

Fig. 1.

Effect of Hydrocortisone on the Nucleotides in Carrageenin Granuloma and Chick Embryo

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The acid-soluble nucleotides were fractionated with Dowex-1 resin using elution with formiate according to Hurlbert *et al.*[1] and estimated by their absorption at 260 mμ. The peaks were further fractionated by paper chromatography and the composition of nucleotides determined by phosphate analysis and by paper chromatography of the purine bases and pyrimidine mononucleotides after acid hydrolysis.

Subcutaneous carrageenin granulomata were produced to cortisone-treated guinea pigs according to Robertson *et al.*[2] The tissue was prepared, homogenized and suspended into 0.6 N cold perchloric acid. The supernatant was neutralized and analyzed. Some differences were found between the cortisone-pretreated and control animals. The individual differences were, however, so large that no exact conclusions could be drawn.

The experiment was therefore repeated with chick embryos, which on the eighth day of incubation received 2.5 mg of hydrocortisone into the yolk sac. The embryos were prepared and analyzed as above after 1, 2, 3 or 4 days. The growth was almost totally inhibited.

Generally the energy-rich di- and triphosphates were decreased. In the region of monophosphates there appeared in all the samples from hydrocortisone-treated embryos a small but distinct peak which was totally absent from the controls. This peak is not yet positively identified. It has an absorption maximum at 262 mμ and in the paper chromatograms (using *iso*propanol-HCl) it migrates almost with the same rate as UMP. However, it cannot be the UMP, which emerges later.

On paper chromatographic evidence it seems that UMP and IMP are decreased after hydrocortisonetreatment apparently in equal degree.

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