The Mucopolysaccharides of *Nucleus Pulposus*

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It has been concluded that the mucopolysaccharides of human *nucleus pulposus* is chondrotinsulphuric acid and keratosulphate.

These two polysaccharides have now been isolated and identified. A dried preparation of *nucleus pulposus* was heat-coagulated and digested with glycerol extracts of pancreas and of intestinal mucosa followed by precipitation with alcohol. The precipitate was extracted with phenol and the digestion and extraction procedure repeated once.

In this way a polysaccharide fraction with a ratio nitrogen/aminosugar of 1.5 was obtained. Glucosamine and galactosamine were both present in a ratio of 0.8.

The fractionation of the purified material was most easily accomplished by precipitation with ethanol on top of a cellulose column followed by elution with ethanol in decreasing concentrations.

Two peaks were obtained, when the effluent was analysed with Döche's carbasol method. In the first peak appearing at about 35% ethanol the aminosugar component was made up to 90 to 95 per cent of glucosamine. The second peak appeared at an alcohol concentration of 10—15%, and 95 to 100% of the aminosugar was galactosamine. Galactose was found only in the first peak.

Details of the fractionation procedure together with analysis and properties of the fractions are given.


The Effect of pH on the Balance between Oxidation of Ascorbic Acid and Reduction of Dehydroascorbic Acid in Plant Tissue

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A rapid oxidation of ascorbic acid in raw cabbage leaves when sprinkled with diluted acetic acid has been demonstrated. We were able to show that this oxidation is brought about by the ascorbic acid oxidase of cabbage.

The same effect of ascorbic acid is obtained in a large number of fruits and vegetables containing strongly active ascorbic acid oxidizing enzymes.

Further experiments have shown that in raw cabbage the reduction of dehydroascorbic acid (DHA) by reduced glutathione under anaerobic conditions is much more sensitive to lowering of pH than aerobic oxidation of ascorbic acid (AA). Thus, the effect of ascorbic acid may be explained by a stronger inhibition of reduction of DHA in an acidified cell as compared to oxidation of AA.


A New Abnormal Fe-Hemochromogogen as a Cause of Hereditary Cyanosis

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The authors have investigated the blood from a family with hereditary non cardiac cyanosis affecting 5 of 7 members representing three generations.

The maximal oxygen combining power was 20% less than for a normal blood with the same iron content. Absorption spectral curves of oxygenated blood as compared with oxyhemoglobin from normal blood with the same iron content showed neither differences within the ultraviolet range (240 μm—400 μm) nor within the infrared (750 μm—1 000 μm). In the visible range there was found increased absorption from 480 μm—520 μm and between 590 μm—670 μm with a maximum at 600, and decreased absorption between 530 μm—585 μm indicating the presence of an abnormal hemochromogen. The non-identity with methemoglobin (MHB) and sulfhemoglobin was evident from different absorption spectral curves and further differing from MHB by the absence of reaction with cyanide and fluoride.