Hyaluronate adsorbs water more than collagen, but the difference is not large. The effect of depolymerization is seen in the change of the constant C.

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Purification and Properties of a Bacterial Glucose Dehydrogenase

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A bacterium possessing a glucose dehydrogenase was isolated from a secondary culture infection. It has provisionally been assigned to the genus *Alcaligenes*. 100 g quantities (dry wt.) of the organism could be grown in a simple 20 liter continuous culture apparatus in a normal work day. Resting cells oxidize glucose rapidly to the level of 1 atom oxygen consumed per molecule glucose, and from then on at a reduced rate. In this first period CO₂ evolution is slight. Cell-free extracts, prepared by grinding with Ballotini glass beads, also carry out oxidation of glucose with oxygen as acceptor. The primary dehydrogenation could be studied with 2,6-dichlorophenol indophenol as hydrogen acceptor. Using this assay method, the enzyme was purified 250 fold with protamine sulphate, ammonium sulphate, DEAE cellulose, and calcium phosphate gel. At this stage the enzyme catalyzes the reduction of 40 μ moles dye per min per mg protein.

Cytochrome c or DPN are not reduced at a significant rate, and reoxidation with oxygen is not measurable, unless phenazine methosulphate is also added. In the presence of phenazine methosulphate and oxygen, the immediate product of the reaction was shown to be gluconolactone. The absorption spectrum of the enzyme preparation shows the presence of a b-type hemoprotein, partially reducible by glucose. The spectrum also suggests the presence of functional flavin, and preliminary inhibition and fluorescence data support this evidence. This soluble dehydrogenase appears to represent a fragment of the particulate glucose oxidation system found in the cells and the extract.

Acta Chem. Scand. **13** (1959) No. 10

Collagen Fractions in Experimental Lathyrism

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The collagen fractions of pooled skins of lathyratic and control rats were obtained by a modified procedure by Harkness *et al.*¹. In the disodium phosphate-soluble fractions the collagen was estimated from the content of hydroxyproline², the acid-soluble and insoluble fractions from the nitrogen content. Four extraction series were performed in both groups.

The insoluble collagen was nearly same in lathyratic animals as in controls. The acid-soluble collagen was higher in lathyratic samples (content 0.48 % and 0.18 % from the air-dried skin samples of lathyratic and normal rats, respectively; $P > 0.10$).

The most marked difference was in the disodium phosphate-soluble collagen. Calculated from the hydroxyproline contents of the extracts, the averages were 3.15 % and 0.62 % in the lathyratic and normal samples, respectively ($P < 0.001$) and after precipitation the alkali-soluble collagen amounted to 1.07 % and 0.30 % ($P < 0.01$). It is concluded that in experimental lathyrism the alkali-soluble collagen is increased but there is a defect in the fibre formation.

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A New Sensitive Detector for Gas Chromatography

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We constructed Lovelock's type of gas chromatography detector¹ of Pyrex-glass using the ⁹⁰Sr-covered silver plate as anode. Some incidental observations prompted us to replace the anode by a non-radioactive aluminium plate.