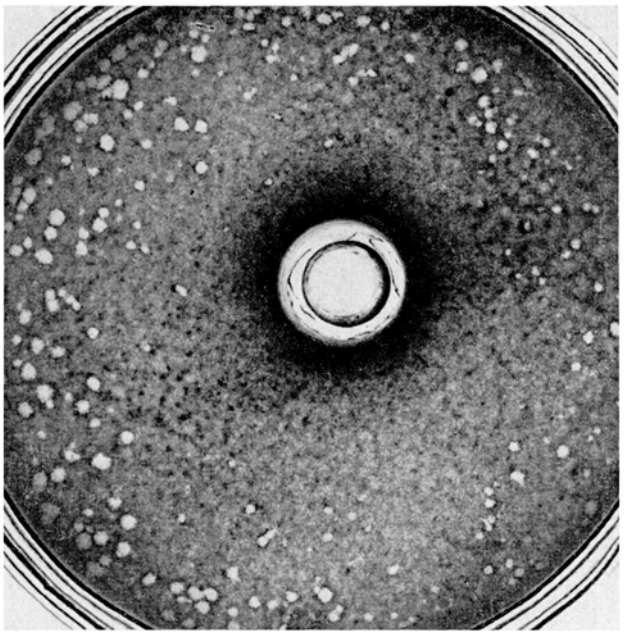

Fig. 3. 6-Azauracil riboside[6] (2.0 *M*). Large zone of inhibition without zone of toxicity.
The cultures were seeded with approximately 500 plaque-forming units of vaccinia virus; the cylinders were charged with 0.05 ml of solution of the substance tested; dishes of 4 cm diameter were employed.

A quantitative evaluation of the effect of 6-azauracil riboside on the multiplication of vaccinia virus was performed, using the method of Overman and Tamm[7] with the modification that the ineffectivity test was carried out by Dulbecco's plaque method on chick fibroplast cultures. In the toxicity tests, the method and criteria of Tamm[8] were adopted. 6-Azauracil riboside has very low toxicity: only concentrations as high as 1.75×10^{-1} *M* bring about changes in the curling up of a piece of chorioallantoic membrane characterised by Tamm as 2 +. On the other hand, a 1.2×10^{-2} *M* concentration of 6-azauracil riboside causes a 75% inhibition of the multiplication of vaccinia virus. Its selectivity (ratio of toxicity to virus inhibiting concentration) is thus about 14, i. e. sufficient to permit its use in amounts not toxic for the animal host.

6-Azauracil riboside has no direct inactivating effect on vaccinia virus, as shown by incubation of the virus with 4×10^{-2} *M* 6-azauracil riboside for 3 h at 35°C (Table).

6-Azauracil riboside was found to have no effect on influenza virus type A strain PR8, when tested by the method of Tamm *et al.*[9], and against Newcastle disease virus (NDV) and Eastern equine encephalomyelitis virus (EEE), when tested by the plaque method.

Number of Plate Forming Units (PFU)/ml in Presence of 6-Azauracil Riboside

h	Medium + 6-azauracil riboside[a]	Blank
0	2.8×10^5	2.8×10^5
3	1.5×10^5	2.4×10^5

[a] The concentration of 6-azauracil riboside was 4×10^{-2} *M* which corresponds to 99% inhibition in the membrane culture test.

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Zusammenfassung

Die Hemmwirkung von 6-Azauracilribosid auf die Vermehrung des Vaccina-Virus in Gewebekulturen wurde festgestellt. Die Substanz blieb gegen andere Viren (Influenza A, NDV, EEE) wirkungslos.

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A Paper Strip Electrophoretic Examination of the Action of Dextran in Colloidal Solution on Human Serum

Sulphated polysaccharides applied *in vivo*, as heparin and dextran sulphate, produce a clearing effect on human and animal lipaemic serum[1–7], and an accelerating effect on the electrophoretic mobility of the serum lipids migrating with the β-globulins and albumins[1,5,8,9].

These sulphated polyanions interact with serum *in vitro* forming an insoluble complex with the lipids migrating electrophoretically with the β-globulins[10–13]. This insoluble complex also contains proteins.

In the present paper, a preliminary investigation of a possible effect of dextran in colloidal solution on turbidity of normal and lipaemic human sera is tried. A possible action of dextran in colloidal solution on electrophoretic mobilities of serum lipids was also examined. The experiments were performed with human sera by applying dextran *in vivo* and *in vitro*.

Materials and Methods. The dextran used in infusion *in vivo* and experiments *in vitro* was 'Macrodex' from Pharmacia Uppsala Sweden in a 6% colloidal solution. The infusion was given to healthy males and females during 2 h at a rate of 210 mg/kg/h. In the experiments *in vitro* 0.30

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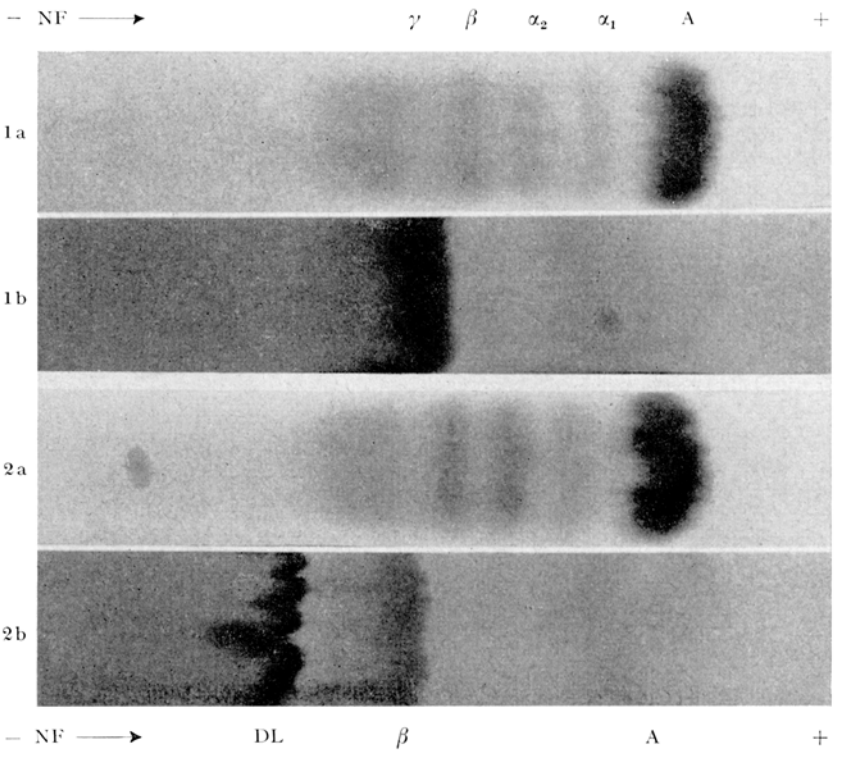
volumes of the colloidal solution of dextran was added to one volume of serum. The turbidity of serum was estimated at 590 mμ on the Zeiss Elko II photometer. The filter paper strip electrophoresis was performed in veronal Na-acetate and in phosphate buffer at pH 8.6 in a potential gradient of 3–4 V/cm for 18 h. The filter paper used was Whatman No. 1. The lipid patterns were stained with Sudanblack B and Oil Red 0, the protein patterns with Amidoblack 10 B and Bromphenolblue.



The effect of dextran in colloidal solution on lipids and proteins as recorded by paper strip electrophoresis.

1. Normal serum. 2. The action of dextran on the same serum. NF = neutral fats; DL = the dextran-lipid fraction. a = protein staining. b = lipid staining.

Results. In all experiments performed *in vivo* and *in vitro* (10 cases), dextran in colloidal solution exerted no change in turbidity of fasting and lipaemic human sera. On the contrary, in all the experiments performed, *in vivo* and *in vitro* with lipaemic or fasting sera, dextran in colloidal solution changes the lipid patterns in paper strip electrophoresis. A new lipid fraction appears with a slower electrophoretic mobility than any known protein or lipid fraction. It appears between the starting point and the γ-globulins. We suggest calling this new fraction the dextran-lipid fraction (DL-fraction). The Figure represents a typical result of the experiments. The appearance of the DL-fraction obviously diminishes the intensity of the lipid pattern migrating with the mobility of the β-globulins. The protein patterns seem not to be altered by the action of dextran. It seems to us that the DL-fraction contains no proteins but an appreciable amount of dextran. Thus we assume that this fraction represents a dextran-lipid complex. Further work on the subject is in progress and will soon be published in detail elsewhere.

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Zusammenfassung

Eine 6%ige kolloidale Dextranlösung, *in vivo* infundiert oder dem Serum *in vitro* zugesetzt ändert dessen Lipidogramm. Zwischen Startpunkt und γ-Globulinen entsteht eine neue mit DL bezeichnete Fettfraktion. Im Verlauf der Experimente unterblieb eine Trübung des Serums und Änderung des Elektrophorese-Proteinogramms.

Serotonin Inhibition of Liver Mitochondria Swelling *in vitro*

In recent researches on mitochondrial morphology, it has been found that many substances possess the ability of inhibiting the swelling which occurs spontaneously when the particles are suspended in isotonic sucrose: such substances are for example ATP (adenosine triphosphate), Mg^{++}, versene, and K^{+}[1–3]. Other substances, such as phosphates or succinate, increase or accelerate this process of water exchange between the medium and mitochondria in relation to their metabolic activity[3–5]. Recently some neurohumoral amines have been considered for their action on mitochondrial morphology: histamine, adrenaline, and acetyl choline were found to be completely inactive *in vitro*[6]. In this note the effect of another neurohumoral amine, 5-hydroxytryptamine (HT), on spontaneous swelling of rat liver mitochondria *in vitro* has been studied. This neurohumoral amine is contained in appreciable amounts in blood platelets; and since these do not contain enzymes capable of metabolising it, and since substances have been found which influence the binding or release of HT from blood platelets, such as reserpine[7], it would seem that they merely have a function of transport with respect to HT. Walaszek and Abood, studying brain mitochondria, found that they contain a considerable

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