presumably derived from pyruvate formed by the action of oxaloacetate decarboxylase[12].

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CYTOLOGY

Collagen in Normal Mouse Glomeruli

THE mesangial region of the normal renal glomerulus has been the subject of controversy for many years and is the site of collagen production in some diseases[1,2]. Although there have been many investigations in a variety of animals, we are aware of only one published account which has described collagen fibrils in the normal glomerulus. These were described in the rat[2]. During investigations of experimental renal amyloidosis in the mouse we had cause to examine the glomeruli of normal animals. Careful search of the mesangial regions revealed the presence of typically striated collagen fibrils with periodicity 500–600 Å and showing intraperiod striations. Fig. 1 shows parts of two mesangial cells (the arrows point to collagen fibrils). Fig. 2 is a higher power electron micrograph of the area indicated between the arrows in Fig. 1. The tissue was fixed in buffered osmium tetroxide solution, embedded in 'Araldite', and after sectioning stained for 1 h with 2 per cent phosphotungstic acid dissolved in absolute alcohol.

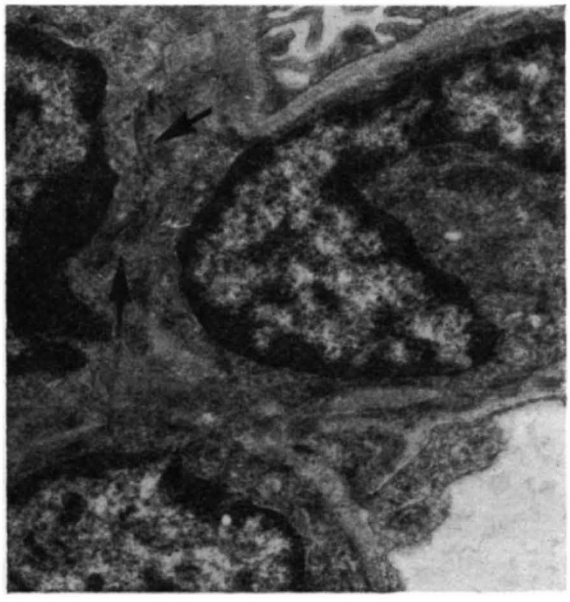

Fig. 1. Portions of three mesangial cells. Arrows indicate the position of collagen fibrils. (× 10,000.)

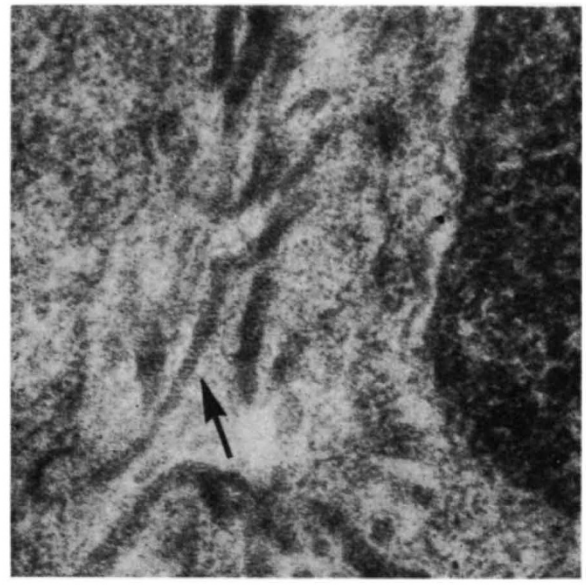

Fig. 2. Higher power electron micrograph of part of Fig. 1. Arrow indicates intraperiod striations. (× 80,000.)

The presence of collagen fibrils within the normal mouse glomerulus establishes that these are not restricted to the rat. This emphasizes the potential functional importance of the mesangial cells. Although such small numbers of collagen fibrils could not offer much structural support to the glomerulus, their presence is indicative of the mesenchymal properties of the mesangial region and its possible role in disease processes.

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Modification of Relative Mutagenic Efficiency in Barley of Mesyloxy Esters by Different Treatments

THE mutagenicity of mesyloxy esters of differing chemical structure has been studied in *Drosophila*, and the marked differences observed have been attributed to differences in the reactive alkyl group and the non-alkylating "prosthetic" parts of the compounds[1]. Relationships between the chemical structure and the biological effects of different monomesylates have also been studied in barley[2]. Although the qualitative and the quantitative differences in the biological effects, including chromosome breakage and mutation rates, produced by this group of compounds have been attributed to a correlation between structure and activity, very little attention has been paid to the physical factors which may influence the reactivity. By "physical" we mean such factors as temperature and hydrogen ion concentration of the treatment solutions, which may influence the reactivity, functionality, stability and the rate of diffusion of a chemical, and which in turn may modify its biological effects. We have therefore studied the modifying effects in barley of temperature and hydrogen ion concentration on various biological effects produced by the three mesyloxy esters—ethyl methane-sulphonate (EMS), methyl methane-sulphonate (MMS) and 1,4-dimethylsulphonoxybutane (myleran). The compounds have different reactive alkyl groups. The present report summarizes data relating to the effect