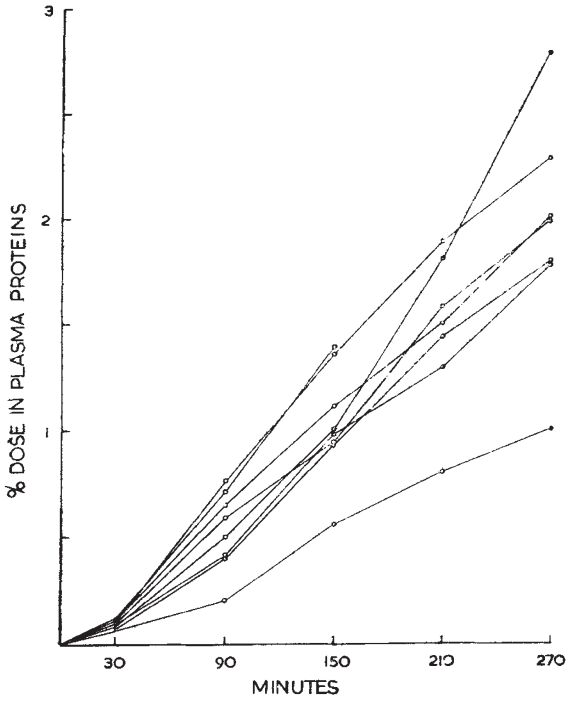

Fig. 1. Percentage dose lysine labelled with carbon-14 incorporated into total plasma proteins at different times in eight experiments

Incorporation of the label was shown to occur mainly into γ- and α-globulins. Negligible values were obtained for albumin; but results for β-globulin were inconclusive because of technical difficulties in obtaining an uncontaminated preparation. The highest specific activity was found for the slower γ-globulin as shown by paper electrophoresis.

These experiments show that the perfused isolated rat spleen synthesizes α- and γ-globulins; but calculation of the actual amount of proteins synthesized on the basis of plasma protein specific activities was not attempted because of lack of information about intracellular amino-acid specific activities[12].

The finding that spleen as well as liver synthesizes α-globulins suggests that the reticulo-endothelial system, in which liver and spleen are both rich, may play a part.

These experiments and others related to them will be published in full in the near future.

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E. Espinosa*

National Institute for Medical Research,
Mill Hill,
London, N.W.7.

* Rockefeller Foundation Fellow.

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Occurrence of 4-O-Methyl Glucuronic Acid in *Rhizobium* Gums

During a survey of the extracellular polysaccharides of *Rhizobium* species[1], six of seven strains of *Rhizobium trifolii* were shown to include a component which moved very quickly in acid solvents ($R_{glucose}$ about 3) and, on spraying with *p*-anisidine hydrochloride, rapidly developed in the cold a bright pink colour. I have obtained evidence that this compound is 4-O-methyl glucuronic acid. Seven strains of *R. meliloti* and the one of *R. phaseoli* that was tested lacked this component which has however since been found in one of two strains of *R. leguminosarum*.

One mgm. of beech xylan[2] was hydrolysed in 0·2 ml. 1*N* hydrochloric acid in a sealed tube at 100°C. for 20 hr. *Rhizobium* gums were similarly hydrolysed in the proportion of 10 mgm. gum in 0·5 ml. 1*N* hydrochloric acid. After evaporation to dryness *in vacuo* in the presence of potassium hydroxide, aliquots were spotted on Whatman No. 1 paper, and developed in the following solvents: (*a*) butanol:acetic acid:water, 6:1:2; (*b*) ethyl acetate:acetic acid:formic acid:water, 18:3:1:4; (*c*) phenol:water, 4:1; (*d*) propanol:water, 3:2; (*e*) butanol:pyridine:water; 10:3:3. In solvents (*a*) and (*b*) the beech xylan hydrolysates showed two spots. One of these corresponded to xylose, and the other, which moved with the same R_F as the fast-moving components in the gum hydrolysates, also developed its pink colour in the cold. Aspinall *et al.* state[2] that beech xylan is composed of xylose and 4-O-methyl glucuronic acid. Hough *et al*[3] found that the methylated uronic acids tested by them with *p*-anisidine hydrochloride rapidly produced red colours of high brilliance. In solvent (*c*) the unknown component of the gums ran with the same R_F as xylose and the beech xylan hydrolysate showed only a single spot at the xylose level. In alkaline solvents (*d*) and (*e*), the component was held at the starting point in both beech xylan and the gum hydrolysates. Chromatograms run in solvents (*a*) and (*b*) and sprayed with brom-cresol blue showed that the component had an acid reaction.

Rhizobium gum (100 mgm.) was hydrolysed in 10 mgm. lots and the hydrolysates run as a band in solvent (*a*). The fast-moving component was eluted from the paper chromatogram and found to give a positive carbazole reaction for uronic acids with a peak in the absorption curve at 530 mμ (Dische[4]). A similar curve was given by the beech xylan.

4-O-methyl glucuronic acid, a common constituent of hemicelluloses, has not to my knowledge been reported previously from a bacterial source.

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Beverley A. Humphrey

Microbiology Laboratory,
School of Agriculture,
University of Sydney.

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