bond between the chromium-51 and the antigen is stable even after antigen is attached to erythrocytes.

In conclusion, these observations suggest that 0 antigen, or a portion of it, is removed from modified erythrocytes by repeated washing and by re-introduction of the modified red blood cells into the rabbit's circulation.

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Specific Inhibition of Anti-D by Human Urinary Mucoprotein

SIALIC acid and polymers containing sialic acid¹⁻³ have been shown to specifically inhibit agglutination of *Rho(D)* red blood cells by specific antiserum. Urinary mucoprotein, which consists of 9.1 per cent sialic acid⁴ in terms of total mucoprotein, was therefore considered as a possible inhibitor of anti-Rh. The other sugars which make up the prosthetic group of this molecule have been shown not to block specifically Rh agglutination⁵.

Two separate preparations of urinary mucoprotein⁶, isolated from pooled human urine and designated as A and B, respectively, were tested for their ability to inhibit the agglutination of trypsinized *Rho(D)* red cells by specific antiserum. The results are given in Table 1.

Table 1. INHIBITION OF ANTI-RH BY URINARY MUCOPROTEIN

Urinary mucoprotein preparation	Anti-Rh control	μ g of mucoprotein required for inhibition
A	3+	400
B	3+	450

Optimal inhibition was obtained when red cells were added immediately following the mixing of mucoprotein and anti-Rh. Anti-C, anti-E and anti-c were not inhibited by the mucoprotein. Also, a maximal agglutinating dose of anti-D(4+) was not inhibited by the concentrations of the mucoproteins used (400 μ g for A, 2,000 μ g for B). 200 μ g of preparation A inhibited anti-D after previous treatment with a 1 per cent solution of trypsin, a phenomenon somewhat analogous to that of the 'exposure' of Rh receptors on red cells treated with trypsin.

This report supports previous work suggesting an antigenic relationship between sialic acid and the D antigen.

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BIOLOGY

Probable Fertile Region of *Asteroxylon mackiei* K. and L.

Asteroxylon mackiei was first described from the Rhynie Chert by Kidston and Lang¹, but the nature of its reproductive region has remained uncertain, since the peculiar leafless axes and small pear-shaped sporangia, which they provisionally assigned to the plant, have never been found connected to its leafy stems.

During a survey of loose block material containing abundant remains of *Asteroxylon mackiei* and the other organs referred to above, a few small shoots have been discovered bearing sporangia of a quite different type interspersed with veinless 'leaves'. It is the purpose of this communication to give a preliminary description of these and to suggest that they, rather than the naked sporangiophoric axes, may represent the true fertile region of the plant.

The rather large sporangia (up to 7 mm in width when empty) are tangentially flattened and are borne laterally and independently in the shoots between the leaves. Reconstructions based on serial peel sections have shown them to be somewhat reniform. Although most of the sporangia are empty, a few have been found containing spores which are about 50 μ in diameter, and it is evident that these were shed through an extended marginal slit.

Each sporangium is borne on a short vasculated pedicel which expands distally into a pad of tissue over which the spore-sac extends. In median radial section no clear distinction can be made between these two regions and the length of the pedicel thus tends to be exaggerated.

Fig. 1 shows the appearance of one of the shoots in longitudinal section bearing on the right two empty sporangia, the lower of which is cut in the median plane. Parts of at least three other sporangia are present on the left side of the section, but the distal regions of the upper

Fig. 1. Longitudinal section through leafy fertile shoot ($\times c. 8$). s, sporangium; l, leaf; vt, vascular supply to sporangium