PREDICTED AND UNPREDICTED CROSS-REACTIONS OF AN ACETYLPHOSPHOGALACTAN OF SPOROBOLOMYCES YEAST. II

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Since our earlier publication (1), the galactan has been found to contain variable amounts of D-glucose, depending upon the conditions under which the yeast is grown (2). While the presence of D-glucose in no way affects the interpretation of the predicted cross-reactions and does not greatly modify the conclusions drawn from the unpredicted reactions, the latter would have been described and discussed differently had the occurrence of this sugar in the galactan been realized. The necessary revisions are made in this note.

In Table I are given the percentages of D-glucose in the acetylphosphogalactans of the two strains used, as well as in the products of their oxidation by periodate and subsequent reduction. 3-Deoxyhexose was not found.

<table>
<thead>
<tr>
<th>Table I</th>
<th>Glucose Content* of Sporobolomyces Galactans and their Oxidized-Reduced Derivatives</th>
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</thead>
<tbody>
<tr>
<td>Galactan, strain</td>
<td>Anhydroy-glucose in</td>
</tr>
<tr>
<td>NRRL Y-6493</td>
<td>12.6</td>
</tr>
<tr>
<td>NRRL Y-6502</td>
<td>15.1</td>
</tr>
</tbody>
</table>

* Estimated with D-glucose oxidase.

The principal modification necessary is in statement (a) in the next to last paragraph on p. 192 of reference 1, that the O-acetyl group is necessarily on the galactose. The specific polysaccharide of pneumococcal type XVIII (S XVIII) not only contains 1,3-linked D-galactose, but three residues of D-glucose in addition, so that the O-acetyl group of S XVIII is not “necessarily” situated on the galactose. It is, however, most probably attached to the galactose because little of the glucose survives oxidation with periodate and the subsequent reduction, whereas the massive cross-reaction (1610 μg N/ml, Table I [1]) is not greatly affected by these treatments (1200 μg N/ml) if precautions are
taken to retain the O-acetyl group. A preparation from strain NRRL Y-6502 was used in this instance.

Similar considerations apply to the heavy cross-reaction in antisera to S. paratyphi A which involves 30% of the antibody even after the oxidation and reduction and is thus largely independent of the oxidizable end-groups of glucose on the recognized “O” antigens of S. paratyphi A (3).

BIBLIOGRAPHY

