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GLYCOPINION

Editor: RAYMOND A. DWEK

Much of science is dictated by fashion. Some years ago it was even fashionable to believe that oligosaccharides had no real biological role. This Journal thought otherwise, and part of its mission was to provide a forum so that the field could become established. From time to time, we learn of scientists who feel that their particular area is being neglected. One of these areas is that of sialic acid. In this issue we consider a selection of articles that illustrate some of the research activities in this field. It is sobering to see a range of activities that depend on the presence or removal or just one monosaccharide unit! For instance, the presence of sialic acid seems to play a role in the maintenance of erythrocyte viability and half life and it has been suggested that cellular ageing may depend on the cell surface sialic acid content.

In addition, the removal of sialic acids acting as biological masks for glycoconjugates can lead to the exposure of receptors in mammalian systems. The isolation and inhibition of sialidases is therefore an important aspect of the sialic acid field. These enzymes are implicated in a wide variety of biological roles, including the release of virions from cells infected with influenza virus. From the opposite point of view, the sialyl transferases are equally important and some of them may prove to be useful in synthesis. In this respect the recently described selectin field in which certain sialic acids have been identified as part of the structural recognition unit gives added impetus to the synthesis of sialic acid containing ligands. The enormous diversity in the sialic acids (about 50 variants) provides added challenges to those engaged in the synthesis of these compounds. There are, however, still many areas to be explored; for example the reason for the multiple presentation of sialic acids by the mucins has yet to be established.

Letters or comments relating to this article would be received with interest by Pauline Rudd, Assistant to the Special Advisory Editor, R. A. Dwek.