

Letters to the Editor

On the Nomenclature of Complex Carbohydrates

Some histochemists still distinguish between "neutral and acid mucopolysaccharides" based on reactions such as the periodic acid-Schiff (PAS) and Alcian blue staining. In the same way terms such as "neutral and acid glycoconjugates" are used.

Apart from the fact that the so-called acid mucopolysaccharides can also give a positive PAS-reaction, this classification does not reflect the real nature of these substances. This classification is also in conflict with the nomenclature of biochemists and gives no impression of the chemical composition of these substances. To be fair, it must be remarked that biochemists are also inconsistent in their terminology.

Today we have special techniques that can detect the main sugar, the functional groups, and in some cases, the linkage, so that the term "acid and neutral mucopolysaccharides" should no longer be used.

As long as the precise structure of the histochemically demonstrated proteoglycans is unknown, the terms glycoglycans (for polysaccharides with hexoses), glycosaminoglycans (for aminosugars-containing polysaccharides), and fucoglycans and sialoglycans (for fucose- and sialic acid-containing polysaccharides) can be used. Important substituents should be accommodated by using such terms as phospho-, acetyl- and sulfoglycans (or sulphoglycans).

I would like to recommend that a commission be formed to work out an agreement between histochemists, biochemists and carbohy-

drate chemists on the acceptance of a uniform nomenclature in all three specialized branches of science.

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The proposal of Clemens Knospe was forwarded to the Journals Committee of the International Federation of Histochemical Societies. This committee is composed of the editors of ten histochemical journals published in Europe, Japan, and the United States. It is chaired by Peter J. Stoward, editor of the Histochemical Journal (Dundee, Scotland). Dr. Stoward subsequently reminded me of a similar proposal published in this journal in 1965 (Spicer SS, Leppi TJ, Stoward PJ: Suggestions for a histochemical terminology of carbohydrate-rich tissue components. *J. Histochem. Cytochem.*, 13:599-603, 1965) and response to this proposal published in 1966 (Stoward PJ, Barker SA, Kent PW, Pearse AGE: Some British comments on this histochemical nomenclature of mucosubstances. *J. Histochem. Cytochem.*, 14:681, 1966).

Paul J. Anderson, Editor