Terminology for sialic acids

We write on behalf of the Nomenclature Committee of the International Union of Biochemistry to comment on the proposal by Scott et al. (1982) to change the name of neuraminic acid to aminosialosonic acid as a consequence of allotting the name sialose to a hypothetical 3-deoxyxnonulose. They further propose symbolizing sialose as Sia, aminosialosonic acid as SiaA, and aminosialosonic acid as SiaNA.

We do not find enough advantages in this proposal to justify the considerable disruption it would cause to existing practice. Further, the commonest sialic acid, N-acetylneuraminic acid, now symbolized (IUPAC–IUB Joint Commission on Biochemical Nomenclature, 1980) as NeuAc, would become longer in both name (acetylaminosialosonic acid) and symbol (SiaNAcA). The symbols proposed contain a misleading indicator, since A modifies the symbol before it to form a uronic acid (IUPAC–IUB Joint Commission on Biochemical Nomenclature, 1980) whereas Scott et al. (1982) use it to oxidize a different carbon atom, C-1 not C-9, to the carboxyl group. A minor point is that although Scott et al. (1982) correctly modify the name of a ketose with the ending ‘sonic acid’ to give the name of the corresponding 2-dehydroaldonic acid, the ending is not well enough known to convey structure to most biochemists.

Scott et al. (1982) stated that the terms neuraminic acid and sialic acid were names of a single compound; in fact Blix et al. (1957) defined sialic acid as a generic term for an acylated neuraminic acid, and their practice has been generally accepted, e.g. in Lip-3.10 and Lip-4 of ‘The Nomenclature of Lipids’ (IUPAC–IUB Commission on Biochemical Nomenclature, 1976). We do not think that the existing names and symbols need changing; we realize that we have not taken enough account of them in naming the enzyme that hydrolyses terminal sialic residues in glycoproteins, and we are therefore changing the recommended name of this enzyme from ‘neuraminidase’ to ‘sialidase’ (both names used by Blix et al., 1957) under entry 3.2.1.18 in Enzyme Nomenclature.

Henry B. F. DIXON* and Athel CORNISH-BOWDEN† (Chairman and Secretary of the Nomenclature Committee of the International Union of Biochemistry)

*Department of Biochemistry, University of Cambridge, Tennis Court Road, Cambridge CB2 1QW, U.K., and †Department of Biochemistry, University of Birmingham, P.O. Box 363, Birmingham B15 2TT, U.K.

(Received 19 September 1983)


