

70 Years Classification and Nomenclature of the Enzymes: The Seventh Classes of Enzymes

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The first attempt to organized nomenclature of the inorganic and organic chemicals dates back to the second half of the eighteenth and nineteenth centuries. However, the international standardization of chemical nomenclature came to the founding of the International Union of Pure and Applied Chemistry (IUPAC) in 1919. Despite the use of the term catalysis with the concept of accelerating chemical reactions in the second half of the eighteenth century, the modern concept of catalysis was introduced in the third decade of the nineteenth century almost at the same time as the introduction of the first enzymatic activity. Nevertheless, the international standardization of enzymes nomenclature was delayed until the sixth decade of the century when the International Union of Biochemistry (IUB), (which was renamed as the International Union of Biochemistry and Molecular Biology or IUBMB) was founded at the beginning of the second half of the 20th century. The IUB began to publish reports on the classification and naming of enzymes based on the type of reaction, through organizing the Enzyme Commission (EC), first in consultation with and then in cooperation with the IUPAC. The result was the publication of six reports and 13 supplements naming and classifying enzymes by the end of the twentieth century. Based on this, enzymes were named and classified into 6 classes. Until, 70 years after the international and organized effort to name enzymes and 60 years after the publication of the first report of the Enzyme Commission, a group of enzymes were named as “Translocases” and classified in the seventh class (EC 7). Here, while informing about the addition of the seventh class to the pre-registered 6 classes of enzymes by the Enzyme nomenclature working group from of IUBMB (EN-IUBMB) and the IUBMB/IUPAC Joint Biochemical nomenclature commission (JCBN), the history of enzyme classification and nomenclature from the beginning to the present is reviewed.

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