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Book Review

Springer handbook of enzymes: Volume 2, Class 6. Ligases

D. Schomburg, I. Schomburg (Eds.); Springer–Verlag, Berlin, Germany, 2001, xxiv + 796 pp., ISBN 3-540-41399-5, $249.00

Recently, as the full information about the genome is becoming available for a rapidly increasing number of organisms and transcriptomes, and proteome analyses are beginning to provide us with a much wider image of protein regulation and function, it is obvious that there are limitations to our ability to access functional data for the gene products—the proteins and, in particular, for enzymes. Those data are inherently very difficult to collect, interpret and standardise as they are widely distributed among journals from different fields and are often subject to experimental conditions. Nevertheless a systematic collection is essential for our interpretation of genome information and more so for applications of this knowledge in the fields of medicine, agriculture, etc. Progress on enzyme immobilisation, enzyme production, enzyme inhibition, coenzyme regeneration and enzyme engineering has opened up fascinating new fields for the potential application of enzymes in a wide range of different areas.

Springer Handbook of Enzymes provides in concise form data on enzymes sufficiently well characterised. Data sheets including about 3600 different enzymes are arranged according to the Enzyme Commission list of enzymes. Each volume comprises one enzyme class, sometimes the enzyme classes have to be divided into several volumes. The general structure of the fields is Information-Organism-Commentary-Literature. The detailed structure and contents of each field is described as six parts, which includes Nomenclature, Source Organism, Reaction and Specificity, Enzyme Structure, Isolation/Preparation/Mutation/Application and Stability. There exist about 25,000 synonyms for the 3,700 classified enzymes. The synonym index helps in finding the recommended name for a given enzyme and it is also correlated with the EC-Number and the volume and page number of the corresponding place in this Handbook.

All information except the nomenclature of the enzymes is extracted from original literature. The quality and reliability of the data depends on the method of determination, and for older literature on the techniques available at that time. This handbook is an indispensable source of information for researchers in biochemistry, biotechnology, organic and analytical chemistry, and food sciences.

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