

Book reviews

**A.J. Barrett, N.D. Rawlings, J.F. Woessner (Eds.),
Handbook of Proteolytic Enzymes, Second Edition
(2 Volumes) Elsevier Academic Press, London, UK, 2004
(xxxv + 2140 pp., £274.95, ISBN 0-12-079610-4).**

The general term for proteolytic enzymes (peptidases) can be described as those enzymes that hydrolyse peptide bonds. Most peptidases are either exopeptidases; cleaving one or a few amino acids from the N- or C-terminus of the polypeptide chain, or endopeptidases; cleaving internally. The study of proteolytic enzymes has accelerated greatly in recent years because of their numerous practical applications in biotechnology, and their therapeutic value. The influence of proteolytic enzymes on the health and welfare of humans has made it important for biological scientists to have easy access to peptidase data. There was a need for an authoritative ‘one-stop’ publication that would help scientists to easily access peptidase data and thus utilise them more effectively.

The *Handbook of Proteolytic Enzyme, Second Edition* provides a structured and systematic, up-to-date account of the information about proteolytic enzymes. Completely updated and rewritten in two volumes since the first edition; the second edition includes over 140 new chapters. Each chapter describes in detail the enzyme name, its history, activity and specificity, structural chemistry, preparation, biological aspects and distinguishing features. Volume 1 mainly focuses on aspartic and metallo-peptidases and Volume 2 covers peptidases of cysteine, serine, threonine and unknown catalytic type. The total number of peptidases included in these volumes is over 1000. There are comprehensive sets of references in each chapter, as well as two appendices listing mentioned organisms and cited suppliers. A CD-ROM accompanying the handbook provides fully searchable text, 2D structures of peptidases in colour and links directly to PubMed and MEROPS databases.

These volumes provide an up-to-date and comprehensive review of proteolytic enzymes, and are therefore an indispensable reference for all researchers utilising such enzymes in areas of organic chemistry, biochemistry, biotechnology and molecular biology.

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S.R. Parekh (Ed.), The GMO Handbook: Genetically Modified Animals, Microbes, and Plants in Biotechnology, Humana Press, Inc., New Jersey, USA, 2004 (ix + 374 pp., \$145.00, ISBN 1-58829-307-6).

The continued development and application of new and novel biotechnologies results in rapid changes in everyday life. An ever-increasing amount of scientific research is concerned with molecular biotechnology and genetically modified organisms (GMOs), since the survival and reproduction of all living organisms is dependent upon molecular activity. GMOs are produced by manipulation of specific genes to create new living entities, resulting in genetically modified crops, microbes, and animals (all of which are referred to as GMOs). In addition to their utility, the biosafety and economic feasibility of GMOs have become paramount issues of public and media concern.

The *GMO Handbook* provides a structured and accessible review of all aspects of creating and using GMOs. The principles, methods, concepts and impact behind constructing GMOs are covered. This handbook is comprised of four sections (each composed of several chapters); the first of which introduces readers to the historical perspectives of GMO technology, new opportunities and applications of GMOs, and potential issues. The second section covers microbial GMOs; the molecular tools for the production of genetically modified microorganisms (GMMs), the development and applications of GMMs, and their biosafety and associated ethical issues. The third section focuses on mammalian GMOs. New strategies employed and the large-scale expression and purification of recombinant products in culture cells are covered. Biosafety, ethics and regulation of transgenic

animals are also discussed. The final section is concerned with plant GMOs and details the economic benefits of transgenic plants, experimental protocols, the importance of public acceptance of GMOs, and the regulatory structures operating in different countries.

Each chapter contains an extensive set of references, and a useful glossary is also provided at the end of the volume. In conclusion, this handbook provides scientists and researchers with an up-to-date and comprehensive survey of the GMO field and is therefore highly recommended.

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