

Josephy, P.D.: **Molecular Toxicology**. - Oxford University Press, New York 1997. 368 pp. ISBN 0-19-509340-2

A large number of chemicals of diverse structures and physical properties have been found to induce toxic and genotoxic effects in animals, including man. The mechanisms of the effects of these chemicals remains, in many cases, unknown, but it can be assumed that it involves the interaction of these agents or their metabolites with the cell's DNA or with various cellular components and molecules. The main objective of this publication is to review the connection between the biochemistry of the metabolism of environmental toxicants and the metabolism of endogenous compounds and the effects of this metabolism on the cellular and molecular levels. The introductory chapters describe the most important methods used in modern biochemistry and present a short review of molecular biology and its applications in toxicology. The following chapters cover important topics within the field, such as biological oxidation, superoxide and superoxide dismutase, catalases and peroxidases, lipid peroxidation, glutathion and detoxication, sulphotransferase. Of interest to toxicologists and genetics are the chapters dealing with chemical mutagenesis and with the toxic effects of specific groups of agents of environmental importance, such as chlorinated aromatic compounds, polycyclic aromatic hydrocarbons and aromatic amines. Most references are associated with human and laboratory animals biochemistry and only in specific cases with bacterial biochemistry (chapters on cytochrome P-450, arylamine N-acetyltransferase, etc.). Readers of *Biologia Plantarum* will find only a limited number of references to plants, although plants also produce various metabolizing enzymes, e.g., cytochrome P-450. According to the author the study of metabolizing enzymes throughout the plant kingdom is still in its infancy. The articles are well written. Each chapter includes bibliographical references and the book is appendix with an index. *Molecular Toxicology* reflects the rapid advance seen in the subject in recent years. It is the first comprehensive book on the subject and will be of great interest both to students and researchers in biochemistry, toxicology and genetics. It covers not only Science, but also passages from *Oliver Twist* and *Hamlet*.

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