

Cotter, T.G., Martin, S.J. (ed.): **Techniques in Apoptosis. A User's Guide.** - Portland Press, London 1997. 333 pp. GBP 39.50 (paperback). ISBN 1 85578 129 8.

The concept of programmed cell death has become one of the most studied areas in the biological research in recent years. Contrary to cell necrosis it was termed as apoptosis, because it possesses many distinctive features. Apoptosis is associated with a striking pattern of DNA degradation and requires new synthesis of RNA and proteins. The book describes methods that are employed to measure apoptosis at various levels: at the molecular level, in cell-free systems, in single cell suspensions, and in tissues.

The book comprises 14 chapters. Each chapter begins with an index of described methods and short introduction, then follows a detailed description of individual methods including the used materials and list of necessary equipment. Whenever suitable, colour pictures of stained preparations are given as well as illustrating electron micrographs or graphical outputs from measuring instruments. Together with schematic presentations of complicated procedures this arrangement creates a highly didactic manual. At the end of each chapter a set of key references is given which enables a quick orientation in original literature.

Individual contributions deal with 1. Morphological assessment of apoptosis, 2. Measurement of the induction, activity and products of tissue transglutaminase in cells

undergoing apoptosis, 3. Assays for the measurement of DNA fragmentation during apoptosis, 4. Measurements of cell death by flow cytometry, 5. Annexin V: a specific probe for apoptotic cells, 6. Cell-free apoptosis, 7. Calcium flux measurement in cell death, 8. Recognition of apoptotic cells by phagocytes, 9. Assessment of target cell death induced by cytotoxic lymphocytes, 10. Cell death in the thymus, 11. The *Drosophila* embryo as a model for the study of programmed cell death, 12. The use of mouse models for the study of genes regulating cell death, 13. Apoptosis in murine intestinal crypts, and 14. Apoptosis in plant cells *in vivo*.

The usefulness of this book is increased by list of all used abbreviations, detailed subject index, and by giving the addresses of basic suppliers of chemicals and equipment.

This book is primarily intended for newcomers to the field, for whom it will represent a treasure of classical methods. However, due to the fact that this book is 1997 reprint of 1996 first edition, and due to the fast development in the field of apoptosis research, newer methods such as those investigating the role of specific proteases (caspases) or free radicals must be sought in other sources.

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