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BOOK REVIEW

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## Apoptosis, Methods and Protocols

(Brady, H. (ed.) in *Methods in Molecular Biology* (Walker, J., ed.),  
Vol. 282, Humana Press, Humana, 2004, 304 p., \$99.50)

During the last decade apoptosis or programmed cell death has attracted much attention. Although studies of this subject began more than a century ago, significant progress in understanding the molecular mechanisms responsible for development of apoptosis were recognized only recently. Now good evidence exist that apoptosis plays central role in numerous physiological processes, for example, in the immune system. Increase in apoptotic processes may cause many dangerous diseases in man, including cancer, heart failure, ischemia, neurodegeneration, etc.

The book *Apoptosis, Methods and Protocols* summarizes methodological approaches employed for studies of apoptosis. It consists of 19 chapters written by distinguished experts in this field.

Chapters 1-6 deal with such methods used for studies of apoptosis as measurement of DNA fragmentation, caspase activity assay, lymphoid cell cytometry, chromatin analysis, and immune methods of DNA analysis in apoptotic cells. Chapters 7-12 describe methods for determination of membrane potential and transport in

mitochondria, determination of intracellular calcium, analysis of cell cycle changes, and also methods employed for study of apoptosis in neurons. Chapters 12-14 deal with experimental approaches used for studies of apoptosis in plants and in *Drosophila*. Chapters 15-17 consider modeling of apoptosis *in vitro* including screening in yeast by means of antiapoptotic protein A20 and also analysis of caspase activity. Chapters 18 and 19 analyze data on apoptotic gene cloning and use of mutagenesis for identification of genes involved in regulation of apoptosis.

Each chapter contains a short introduction, description of materials needed for each method, and detailed description of a given method, including comments on each stage.

A bibliography to each chapter gives references required for detailed analysis of methods described in this book.

This book will be useful for both beginners and experienced researchers specialized in biochemistry, molecular and cell biology, and pathologies involving apoptosis.

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