

Essentials of apoptosis**A guide for basic and clinical research****Second edition, 2009****Xiao-Ming Yin and Zheng Dong (Eds)****Humana press, Totowa, New Jersey (USA)****Pages: 730; €92.95****ISBN: 978-1-60327-380-0**

When a book get a second edition in a six-year period, it means that the usually employed words praising the unbounded qualities of the underselling book (*a key technical reference; comprehensive and cutting-edge; for beginners and experienced researchers; step-by-step readily reproducible protocols; notes on troubleshooting and avoiding known pitfalls; etc.* etc.) have been checked by the scientific community and found truthful. Here the second edition yet foreshadows a great success, since most of the chapters have been totally rewritten and fifteen new out of a total of thirty-one chapters have been added. By doing this, Prof. Yin and Prof. Dong (who themselves contribute with some chapters) were able to cover both conceptual and practical aspects as well as both basic and applied research aspects, thus leading to translation research aspects in biomedicine, which is a crucial hot topic in modern biomedical clinic. The whole matter is reflected in the subheading of the book accounting for the deep conceptual advancement in the knowledge related to the various aspects of cell death achieved during the last six years. There is no need to spend other words to illustrate the role currently assigned to apoptosis, since the scientific community acknowledged apoptosis as one of the driving forces in any of the biological phenomena running both in longitudinal (gametogenesis) and transverse (organogenesis and developmental processes) temporal sections, as well as in normal and pathophysiological conditions. This fact means that the potential readership is made up of the entire scientific community, not

just only the ones ringing a bell in one's mind as first comers, the obvious molecular and cellular biologists, developmental biologists, protein scientists. The molecular dissection of apoptosis we achieved in the recent years is presented in part I of the book dealing with the molecules and the pathways of apoptosis. The entire section of the book is a must to go through; two chapters are devoted to innovative ways to look at apoptosis, one presenting the "Structural biology of programmed cell death" (by Prof. Yigong Shi) and the other highlighting the "Systems biology approaches to the study of apoptosis" (by Professors Heinrich Huber, Eric Bullinger and Markus Rehm). I appreciated so much their fig. 12.2 *history of apoptotic systems modeling* where the published systems biology studies are classified into the four methodological categories employed by the AA (leading to four types of models: deterministic, stochastic, spatial and statistical) and networks the chronological, experimental, conceptual and logical influences they exerted one over the other. It becomes as well clear the great contribution of the neglected biophysical methods to our understanding of apoptosis, which is always referred to the undoubtedly relevant biochemical contributions. One chapter, contributed among others colleagues by the two editors, is dealing with the basic principles and protocols of the analysis of apoptosis: curious enough, it is just the last chapter 31, which accounts for the whole part V, approaching to the study of apoptosis!

It's worth to let the reader know as well that an entire section of the book (part IV), with fascinating chapters, is devoted to the detection of non-apoptotic cell deaths (necrosis, autophagy, caspase-independent mitotic death and lysosomal proteases in cell death).

CarloAlberto Redi
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