

Book Review

Apoptosis Methods and Protocols

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Apoptosis Methods and Protocols. By Hugh JM Brady. Humana Press, Langdon

This book, the product of a number of contributing authors, aims to describe the basic methods for studying apoptosis. Each method is described clearly and succinctly, and includes helpful tips derived from many years of experience. Thus, Apoptosis Methods and Protocols can be considered as a friendly guide for beginners in the field. It provides a comprehensive background of the standard methods to detect and quantify apoptosis, such as DNA fragmentation, cytochrome *c* release, mitochondrial changes, alterations in intracellular calcium and clearance of apoptotic cells. A range of methods relevant both to the study of apoptosis as well as other biological phenomena, such as immunocytochemistry, flow cytometry, kinase activity assays, yeast two-hybrid screening and cloning of novel genes, is also included. Coverage is not confined to mammalian systems, since there is a chapter on apoptosis methodology in plants, and another on *Drosophila* apoptosis. Strangely, perhaps, in view of the central importance of *Caenorhabditis elegans* in the elucidation of the molecular genetics of apoptosis, methods particularly applicable to the nematode are not included.

All chapters begin with a short introduction giving basic theoretical information and explaining the significance of the technique described in the chapter. The detailed methods are then described, beginning with a list of chemicals, buffers and laboratory hardware required to perform the technique. In many chapters, these are detailed and include appropriate storage conditions for buffers and manufacturers and catalogue numbers of the reagents. This is useful, although, since many reagents and buffers are common to a number of techniques, this is often repetitive, and details of the more

general reagents could usefully have been grouped as an appendix.

The majority of the chapters include good quality illustrations. In particular, the chapter on flow cytometry has a number of basic but effective diagrams showing examples of data obtained with each given method. However, the chapter on the assessment of apoptosis in tissue sections, where visual evaluation is inherent in the technique, lacks illustration, and merely refers the reader to other sources. This patchiness is also evident in the chapters on DNA fragmentation (which includes clear flow diagrams), and that on two-hybrid screening (which does not). A particularly valuable part of each chapter is the notes section at the end, giving a number of practical, trouble shooting suggestions. Each chapter is also appropriately referenced, not only to original methodological papers but also to useful websites.

There are many textbooks on apoptosis, four of which have been reviewed recently in CDD,¹ in addition to many reviews and original papers containing specific methodological details. This book, then, is perhaps not for the established apoptosis lab, but because it brings together clear details of basic apoptosis methods, can be recommended for newcomers to the field.

References

1. Maise C *et al.* (2004) *Cell Death Differ.* 11: 588–590