Histological Techniques: An Introduction for Beginners in Toxicology

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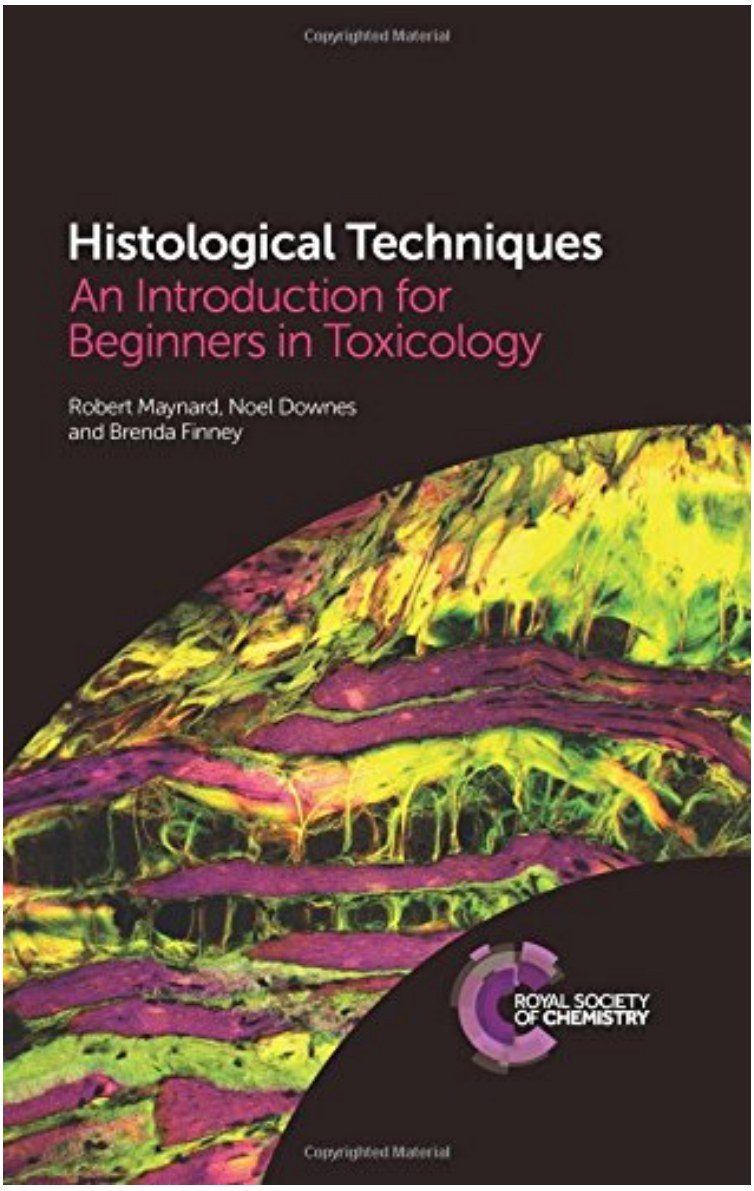

#2413595 in Books 2014-06-09Original language:EnglishPDF # 1 9.42 x .76 x 6.44l, #File Name: 1849739927334 pages | File size: 56.Mb

Robert Maynard, Noel Downes, Brenda Finney : Histological Techniques: An Introduction for Beginners in Toxicology before purchasing it in order to gage whether or not it would be worth my time, and all praised Histological Techniques: An Introduction for Beginners in Toxicology:

Histological techniques form the basis of many areas of research, yet they can often be poorly understood. Aimed at postgraduate students and those at an early stage of their career, this title provides a detailed and comprehensive introduction to histological techniques. With detailed images and slides, this book provides a unique overview of the area while providing the reader with a guide to how to use and incorporate histological techniques within their own research. Written by experts working within the field, this book is an essential handbook for anyone wanting to learn more about histological methods and how to apply them successfully.

The opening sentence of the preface identifies the target audience and broad aim of this book "This little book is for toxicologists who are in the early stages of their careers and want to know something about histological techniques". It is not, and does not pretend to be, a standard textbook on histological techniques, for which the reader should head straight for a definitive tome such as Bancrofts Theory and Practice of Histological Techniques (now in its 7th edition). It does however offer something that is not easily distilled from the authoritative text books in plain and accessible language the authors give us a lucid explanation of the hows and whys of histological techniques, supported throughout by real life examples and personal insights. The emphasis is very much on what may be considered "traditional" histology those interested in in-situ hybridisation, laser capture microscopy, gene sequencing and the like will need to look elsewhere. Note also that electron microscopy, slide scanning and quantification are also out of scope of this work. A total of 9 chapters, the first one an introduction to the scope and aims of the book, cover 8 discrete areas each chapter serving as a worthy introduction to its chosen subject matter. The chapter covering histopathology explains the key physiological and disease process as seen through the light microscope, with some complex concepts eloquently explained in easily digestible laymans language. The chapter on light microscopes tells you everything you are ever likely to need to know on the subject matter, there is a useful and simple guide to how to actually use the microscope optimally something many experienced microscopists tend to have forgotten though, running to nearly 50 pages, there is perhaps too much detail in this section. Next up is "how to examine histological sections". For the most part this is a real gem, full of handy tips garnered over years of experience; I have not seen this theme covered as well as this elsewhere. A couple of chapters take us through the technical aspects of sample preparation from fixation of the specimen through to the unstained section on the slide; the authors vast experience permeates throughout. The text is peppered with little tips garnered from first-hand experience and there are explanations of the theories behind the methods used. The closing 3 chapters on staining techniques are perhaps the weakest part of the work the theory of staining is explained informatively and, whilst enlightening within the scope covered, only a relatively small selection of "standard staining techniques" are included for instance there are no techniques discussed for amyloid, mineralisation, organisms or CNS, though the extensive bibliography does point you in the right direction for these. The section on histochemistry (including immunohistochemistry) is a little too concise; there is no room for important topics such as antibody validation and automated staining platforms. The text covering the ubiquitous HE stain is a real treasure though even the most seasoned microscopist should learn something new by reading this. The refreshing writing style makes each section a nice easy read; the authors clearly know their subject matter. There is even a subtle humour to the writing at times I particularly enjoyed the "karyorrhectic cell masquerading as a snowman" (check out the picture on page 35) and recognising the novice stainer by "the rainbow appearance of their hands". There are occasional digressions into areas of purely historical interest in this day and age do we still need to know about the Cambridge rocking microtome and do any pathologists really still do hand drawings of what they observe down the microscope? But on the whole the book is highly instructive and full of insight. So, does the book meet its aims? In general I think it does for the toxicologist early in their careers, especially those who perform some of their own lab work, this is a highly readable introductory text, though bear in mind that it deals largely with traditional methods. In fact there are a lot of useful nuggets in here for laboratory scientists and trainee pathologists, for whom it would make an excellent companion volume to one of the heavyweight standard texts. (Barry Reed, GlaxoSmithKline RandD BTS News vol 1:3)"Chapters 5, 6, and 7 constitute the core of the book and the most useful information for the target audience as well as for other professionals who are interested in understanding how tissue preparation occurs in a regular basis.""some helpful hints to toxicologists, particularly in their formative years on how histology works. As such it is a valuable resource.""The section on Introduction to Histopathology covers much ground in a succinct fashion and should be very useful to the audience in mind. It is factual and well organized. The section on the microscope is extensive and well written and should be useful to beginning pathologists as well as toxicologists and would be a good reference section to all interested in this field.""In summary, this book is a valuable resource for training toxicologists, pathologists, and technicians, and it will be a good addition to ones reference library." (Richard Ochoa International Journal of Toxicology, 2015, Vol. 34(2) 211-214)From the Back CoverHistological techniques form the basis of many areas of research, yet they can often be poorly understood. Aimed at postgraduate students and those at an early stage of their career, this title provides a detailed and comprehensive introduction to histological techniques. 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