Light Microscope Histochemistry on Plastic Sections

Progress in Histochemistry and Cytochemistry, Vol. 16, No. 2

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Gustav Fischer; Stuttgart, New York, 1985

84 pages. DM 64.00

The publication of this article from the journal Histochemistry and Cytochemistry is convenient for those wanting a handy reference to the full range of cytochemical techniques available for use on plastic sections. It might be described as an annotated catalogue. The various techniques have been classified under the following headings: methods for proteins, carbohydrates, lipids, nucleic acids, biogenic amines, pigments, inorganic ions, enzymes, immunohistochemistry and enzymatic digestion techniques. An important feature, occupying 25 pages, is the collection of tables where all the methods are listed under the substance demonstrated or stained with an abbreviated account of the fixation, type of plastic used for the embedding, any special treatment, the tissue investigated and the reference. In addition all references are listed alphabetically, with full titles. These references together with the index account for a further 26 pages. The remaining 32 pages which include 9 micrographs describe in a realistic way the specificity and general success of the various procedures under the same headings as the tables. The author makes clear which techniques are likely to be worth trying and also those which have not proved so successful. This book does not set out to describe any of the very useful general techniques developed on semi-thin sections, it is expressly directed to identification and evaluation of those where specific materials are to be localised. No detailed laboratory procedures are described though all the essential treatments like removal of plastic, when employed, are included.

The book shows that the range of cytochemical techniques that have been shown to work effectively on plastic embedded material, though not inconsiderable, is far less than that available for conventional ‘wax’ based procedures. Yet the improved resolution and clarity offered by their use must make an initial check in this volume worthwhile for any intending cytochemist. It should earn a place among the standard reference books for any cytology or pathology laboratory.

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