

Molecular Biology

Biochemistry and Biophysics

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Micromethods in Molecular Biology

With Contributions by

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With 275 Figures



Springer-Verlag Berlin · Heidelberg · New York 1973

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ISBN-13: 978-3-642-80763-3 e-ISBN-13: 978-3-642-80761-9

DOI: 10.1007/978-3-642-80761-9

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Softcover reprint of the hardcover 1st edition 1973

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*Dedicated to my wife
in gratitude for so many years
of serene understanding*

Preface

This book is based on practical experience and is therefore written as a practical manual. The fore-runners of the book were the manuals of the first and second EMBO-Courses on "Micromethods in Molecular Biology" which were held in Göttingen in the spring of 1970 and the autumn of 1971. This book may serve as a manual not only for the participants of the third EMBO-Course to be held in Göttingen in autumn 1973, but also for all experimenters who are interested in using micromethods. It must be emphasized from the outset that this book is conceived as a "cook book" and not as a monograph which attempts to revue the literature on micromethods critically.

The methods described here in detail are performed routinely in the authors' laboratories and include all the practical details necessary for the successful application of the micromethods. There are many other sensitive and excellent micromethods which are not included in this book, because the authors feel that in a "cook book" only methods for which they have personal experience and proficiency should be described. Some readers may feel that the title promises more than the present contents of this book; however, if sufficient interest is shown in this volume, it may be possible to remedy such deficiencies in future editions.

In general, micromethods are no more arduous than the equivalent method on the macro scale, and the saving in time is usually considerable. For instance, sometimes a procedure in the macro scale takes hours, and on the micro scale only minutes, yet the amount of information obtained is the same. Thus it is often advantageous to use micro methods even when there is sufficient material available for macro scale analysis.

Many existing macro scale methods can be made a hundred- or thousand-fold more sensitive by simply scaling down the dimensions of the analytical medium in use, but in some cases it may be necessary to change the conditions of separation when adapting a method. However, in changing from the normal to the micro scale, the biggest barrier is often the sceptism of the experimenter about any method which has been reduced to a micro scale. Once this has been overcome it is fascinating to see what possibilities exist for micro methods in one's own field of research.

Acknowledgments: Dipl. chem. F. BOSCHKE, editor of Die Naturwissenschaften, Prof. Dr. G. CZIHAK, Institut für Genetik und Entwicklungsbiologie der Universität Salzburg as participant of the second EMBO-Course, Prof. Dr. H. HYDÉN, Institute of Neurobiology, Göteborg, and Prof. Dr. H.-G. WITTMANN, Max-Planck-Institut für molekulare Genetik, Berlin, who have independently suggested that this book be written. I would also like to thank my coworkers, E. M. ADAM, H.-H. ALTHAUS, Dr. W. BEHBEHANI, Dr. G. BRIEL, W. DAMES, Dr. F.-H. HUBMANN, F. KIEHL, M. MAIER, S. MESECKE, E. PRIGGEMEIER, Dr. C.-D. QUENTIN,

I. URBAN, Dr. T. V. WAEHNELT, Dr. D. WOLFRUM, for their advice on specific methods, and especially Dr. R. RÜCHEL, and H. ROPTE for producing so many photographs under difficult technical conditions. My thanks are also due to Dr. J. HOBBS for translating the German text, Dr. B. LEONARD, Dr. SHIRLEY MORRIS, and Dr. N. N. OSBORNE for reading the text critically, and Mrs. I. von BISCHOFFSHAUSEN for her assistance in typing the manuscript. Last, but by no means least, my thanks go also to the co-authors for their contributions and to Dr. K. F. SPRINGER and his staff for their part in preparing the book in the present form.

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