Molecules of the Cytoskeleton

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Molecules of the Cytoskeleton

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SERIES EDITOR'S PREFACE

The aim of this Series is to provide authoritative texts of a manageable size suitable for advanced undergraduate and postgraduate courses. Each volume will interpret a defined area of biology, as might be dealt with as a course unit, in the light of molecular research.

The growth of molecular biology in the years since the advent of recombinant DNA techniques has left few areas of biology unaffected. The information explosion that this has caused has made it difficult for large texts to keep up with the latest advances while retaining a proper treatment of the basics.

These books are thus a timely contribution to the resources of the student of biology. The molecular details are presented, clearly and concisely, in the context of the biological system. For, while there is no biology without molecules, there is more to biology than molecular biology. We do not intend to reduce biological phenomena to no more than molecular phenomena, but to point towards the synthesis of the biological and the molecular which marks the way forward in the life sciences.

C. J. Skidmore

PREFACE

Research into the cytoskeleton has produced a long list of polypeptides, whose properties *in vitro* have been studied in varying degrees of detail. The aim of this book is to introduce students to this array of proteins and to prevailing views about the function of specific molecules in cytoplasmic processes. The topics are arranged in what is intended to be a logical manner: this is not necessarily the best order in which to *read* about them. It may be better to read the chapters on function first, in order to understand why certain proteins have been studied in great depth. Chapters 4 and 8 (as well as parts of Chapters 1 and 2) should perhaps be regarded as mini-encyclopaedias, for reference when needed. We hope the extensive cross-referencing between different sections will allow readers to bypass detail until it seems relevant.

Where many theories compete to explain the observations, we have attempted to identify the preferred ones, rather than enumerate all possibilities. Inevitably, many ideas will need to be modified in the light of new evidence, but perhaps the overall picture is now sufficiently well defined to remain recognisable in future. Readers in search of more experimental detail or alternative explanations of the observations should be able to track them down either in the reviews listed at the end of each chapter or in the selected primary references. Undergraduate students are unlikely to have time to read many of the original papers but may find a list associating the names of many of the scientists in this field with the titles of their papers a useful summary of current research activity.

We acknowledge our great debt to colleagues at the Laboratory of Molecular Biology, Cambridge, and elsewhere throughout the world for informative discussions. We especially thank those who have provided us with illustrations and those who suggested improvements to the text.

L. A. Amos and W. B. Amos