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THE RIBOSOME STRUCTURE, FUNCTION, & EVOLUTION

Edited by Walter E. Hill, Albert Dahlberg,
Roger A. Garrett, Peter B. Moore,
David Schlessinger, and Jonathan R. Warner

This comprehensive overview is a major new addition to literature on the ribosome, covering the structure, function, and evolution of this complex macromolecule in both prokaryotic and eucaryotic systems. The authors, an international group of leading experts representing 13 countries, have written and illustrated their chapters for use by all life scientists, including those outside the field.

August 1990; hardcover (ISBN 1-55581-020-9);
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A fascinating look at the variety of multicellular interactions of microbes...

Microbial Cell-Cell Interactions



Edited by **Martin Dworkin**, *University of Minnesota, Minneapolis*

This well-considered compilation of reviews and discussions has as one central theme that the historical concept of microbes as essentially unicellular organisms existing independently of other organisms is conceptually incomplete and misleading; instead, microbial systems manifest a variety of cell-cell interactions and a real understanding, not only of the role of the microbe in nature but also of the nature of the microbe itself, requires that researchers begin to think of microbes as interacting biochemically, genetically, and physiologically with each other. Thus considered, it becomes apparent that the variety of cell-cell interactions manifested by microbial systems represent excellent model systems for examining the mechanistic bases of the cell-cell interactions themselves, with application to the study of multicellular interactions in higher organisms.

The authors provide a representative sampling of the types of interactions among microbes, including mating interactions, involving the exchange of genetic information and including studies of exchanges of mating signals preceding mating; developmental interactions, with a close look at myxobacteria and cellular slime molds; ecological/colonization interactions, represented by discussions of coaggregation, especially in the oral ecosystem, and of bacterial luminescence in fish; and predator-prey interactions, including a look at the mechanisms involved in the *Bdellovibrio* developmental cycle that ultimately kills the host cell.

This book is directed toward any microbiologist, and the list is a long one, who must deal in a practical sense or in a research context with cell-cell interactions, as exemplified by examinations of mechanisms of pathogenesis, ecological interactions, mechanisms of mating, developmental biology, predator-prey interactions, plant-microbe interactions, and formation of mixed culture communities.

CONTENTS

1. **Introduction** (*Dworkin*)
2. **Mating Interactions in Gram-Positive Bacteria** (*Dunny*)
3. **Conjugation among Enteric Bacteria** (*Ippen-Ihler and Maneewannakul*)
4. ***Chlamydomonas* Mating Interactions** (*Goodenough*)
5. **Cell-Cell Interactions Involved in Yeast Mating** (*Kurjan*)
6. **Intercellular Interactions during *Dictyostelium* Development** (*Schaap*)

7. **Cell-Cell Interactions in Myxobacteria** (*Dworkin*)
8. **Role of Intercellular Chemical Communication in the *Vibrio fischeri*-Monocentrid Fish Symbiosis** (*Dunlap and Greenberg*)
9. **Rhizobium-Legume Symbiosis** (*Roth and Stacey*)
10. **Coaggregation: Adherence in the Human Oral Microbial Ecosystem** (*Kolenbrander*)
11. **Intercellular Signalling in the *Bdellovibrio* Developmental Cycle** (*Gray and Ruby*)

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ADP-Ribosylating Toxins and G Proteins

Insights into Signal Transduction

Edited by **Joel Moss** and **Martha Vaughan**, *National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, Maryland*

The contents of this important synthesis and the expert contributors span the disciplines of microbiology, biochemistry, molecular biology, and pharmacology to review current knowledge about ADP-ribosylating toxins, guanine nucleotide-binding proteins, receptors, and signal transduction. Recombinant DNA technology has been applied to elucidate the molecular basis of action of these bacterial toxins, which are responsible in part for the syndromes characteristic of a number of infectious diseases.

This book will very effectively update interested scientists and students on the current status of research into ADP-ribosylating toxins and related topics and will point the way for future advances.

CONDENSED CONTENTS

I. Bacterial ADP-Ribosyltransferases: Toxins and Related Proteins (9 chapters by Collier, Bodley and Veldman, Wick and Iglewski, Ui, Aktories and Just, Aktories et al., Mekalanos and DiRita, Fishman, and Murphy and Strom)

II. Guanine Nucleotide-Binding Proteins Coupled to Signal Transduction in Animal Cells (13 chapters by Raymond et al., Kaziro, Spiegel, Birnbaumer et al., De Vivo and Gershengorn, Snyderman et al., Serventi et al., Manning, Gautam and Simon, Gibbs et al., Price et al., Takai et al., and Boback et al.)

III. ADP Ribosylation in Bacteria and Animal Cells (6 chapters by Lowery and Ludden, Jacobson et al., Williamson and Moss, Iglewski and Fendrick, Ueda, and Miwa and Sugimura)

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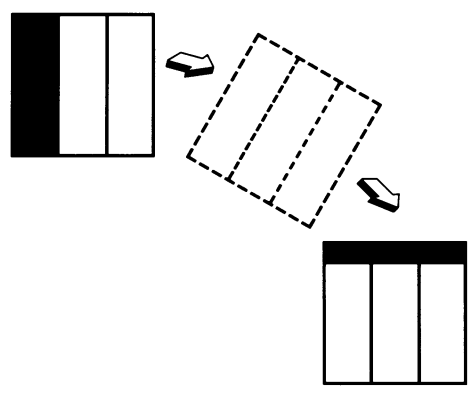
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Autoimmunity, Immunodeficiency, Malignancy

Viruses That Affect the Immune System

Edited by **Hung Y. Fan**, *Cancer Research Institute, University of California, Irvine*; **Irvin S. Y. Chen**, *UCLA School of Medicine, Los Angeles, California*; **Naomi Rosenberg**, *Tufts University School of Medicine, Boston, Massachusetts*; and **William Sugden**, *McArdle Laboratory, University of Wisconsin, Madison*

Viral infections in humans or animals almost always affect the host's immune system. In most cases, the immune system responds by developing a humoral or cell-mediated response, but some viruses can infect immune system cells, causing abnormalities such as autoimmunity, malignancy, or immunodeficiency. Understanding the properties of these viruses, particularly with regard to cells of the immune system, is important to elucidating the mechanisms by which they cause immunological damage.

Many of the viruses that cause immune system abnormalities are retroviruses or herpesviruses. The book commences with the editors' introductory overview of these major immune system viruses, then continues with four comprehensive sections on their mechanisms and effects. Human and other immunodeficiency viruses, retroviruses including human and murine leukemia viruses, Epstein-Barr virus, and cytomegalovirus are among the pathogens examined in depth.

Molecular biologists, virologists, and researchers into oncology, autoimmunity, and the immunodeficiency syndromes will find this book, the third in a popular series arising from the ICN-UCI Conferences on Virology, a valuable addition to the literature.

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 6. CD4: Function, Structure, and Interactions with the HIV-1 Envelope Protein gp120 (*Diamond et al.*)
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 11. Leukemogenesis by Moloney Murine Leukemia Virus (*Fan et al.*)
 12. Endogenous Murine Retroviruses and Leukemia (*Coffin et al.*)
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