A definitive work focusing on homologous recombination...

Genetic Recombination

Edited by Raju S. Kucherlapati,
University of Illinois College of Medicine, Chicago, Illinois,
and Gerald R. Smith, Fred Hutchinson Cancer Research Center, Seattle, Washington

The reviewers all agree!

From Trends in Biochemical Sciences: "...required reading for anyone even vaguely interested in the subject matter. Without exception, the reviews are of the highest quality, they are surprisingly up-to-date and provide an excellent source of references."

From The Quarterly Review of Biology: "A veritable feast for recombination fanatics ... a must for libraries and for workers in the field and should serve as a valuable reference for geneticists in general ..."

From Folia Biologica: "...an excellent source of information and thinking in its field...highly recommended to all geneticists and molecular biologists."

This well-integrated treatise will be of interest and value to researchers and students focusing on prokaryotic and eukaryotic genetic recombination and on related topics such as gene expression, protein-DNA interactions, chromosome mechanics, meiosis, gene therapy, and DNA repair.

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1. Modes of Gene Transfer in Bacteria (Porter)
2. Mechanisms of Genetic Recombination in Gram-Positive Bacteria (Lacks)
3. Pathways of Homologous Recombination in Escherichia coli (Mahajan)
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5. Mismatch Repair and Genetic Recombination (Radman)
6. Homologous Pairing and Strand Exchange Promoted by Escherichia coli RecA Protein (Radding)
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23. Immunoglobulin Gene Rearrangement (Engler and Storb)
24. Integrative Recombination of Retroviral DNA (Skalka)

November 1988, hardcover (ISBN 1-55581-004-7), 743 pages, illustrated, index. Prices: Member, $54.00; Nonmember, $71.00 (Canadian customers add 7% G.S.T.). Shipping charges: U.S., $2.50/book (1-3 copies) or $1.75/book (4 + copies); non-U.S., $4.50/book (1-3 copies) or $2.25/book (4 + copies).

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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, McArthur Laboratory, University of Wisconsin, Madison

Viruses 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 ICM-UCI Conferences on Virology, a valuable addition to the literature.


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5. Molecular Genetics of the HIV-1/CD4 Interaction (Camerini and Chen)

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7. HIV Entry into Cells (Page et al.)

8. The Murine Acquired Immunodeficiency Syndrome Induced by the Duplan Strain Retrovirus (Jolicoeur 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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IV. Oncogenesis by Herpesviruses

14. Immortalization of Human B-Lymphocytes by Epstein-Barr Virus (Sugden)

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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.

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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-Monocentria Fish Symbiosis (Dunlap and Greenberg)
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