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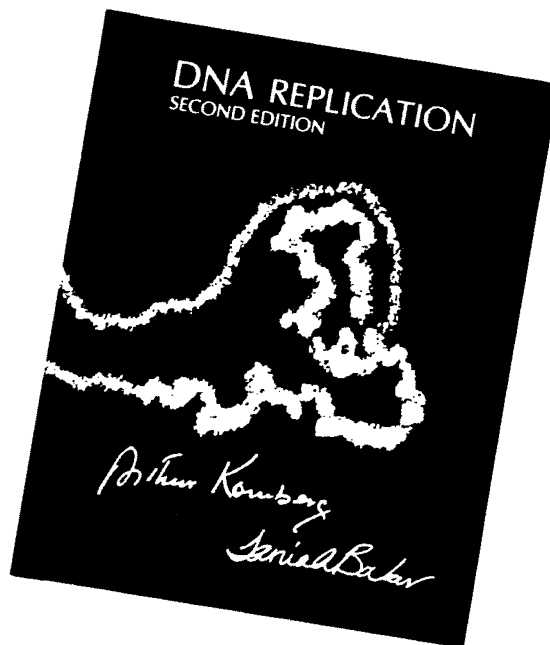
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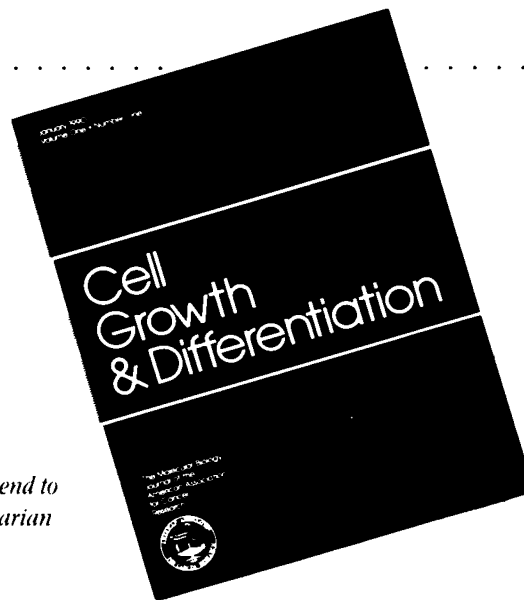
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COMMON MECHANISMS OF TRANSFORMATION BY SMALL DNA TUMOR VIRUSES

Edited by Luis P. Villarreal, *Cancer Research Institute, University of California, Irvine*

Small DNA tumor viruses, i.e., polyomavirus, papillomavirus, and adenovirus, have long been of major interest, primarily because they have been shown to cause cancers. An in-depth examination of their common mechanisms of cell transformation is the focus of this volume, arising from the 1989 ICN-UCI International Conference on Virology.

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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.

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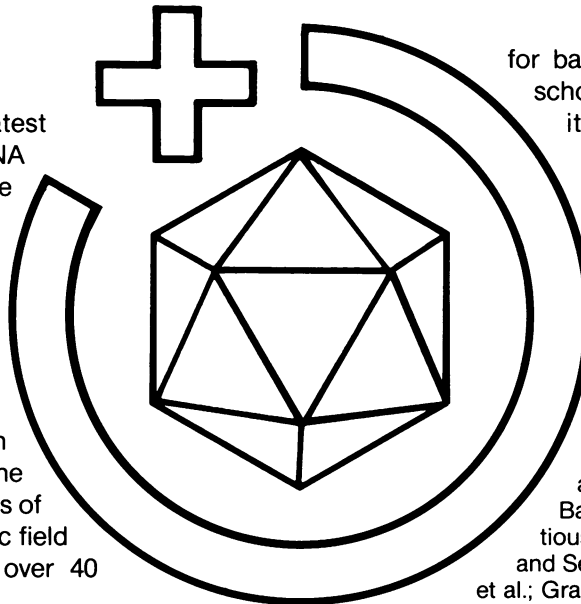
THE LATEST INFORMATION ON SOME VIRUS "SUPERFAMILIES" — NEW ASPECTS OF POSITIVE-STRAND RNA VIRUSES

EDITED BY MARGO A. BRINTON
AND FRANZ X. HEINZ

THIS BOOK presents the latest thinking on positive-strand RNA viruses. These include the majority of plant viruses, insect viruses, and animal viruses, including picornavirus, coronavirus, togavirus, flavivirus, poliovirus, and rhinovirus. Arising from the 2nd International Symposium on Positive-Strand RNA Viruses, held in Vienna, Austria, in June 1989, the book is a compendium of reviews of exciting research in this dynamic field currently being performed at over 40 laboratories.

At one time considered divergent in structure, the viruses of the sindbis, polio, and coronavirus superfamilies are increasingly known to share important similarities which allow them to shuffle conserved amino acid units to form new viruses. The implications for plant, animal, and human viral studies, including vaccine and antiviral-compound development, are serious. In addition, the book gives new insight into the diversity of the structure of picornaviruses. The first animal viruses to be crystallized, the picornaviruses have had enormous influence on subsequent discussions of viral structure. Several color plates illustrate the structural projections of these viruses and add to the book's overall usefulness.

The book will be valued both as an update for virologists, molecular biologists, viral immunologists, medical virologists, and researchers in vaccine development and antiviral compounds and as supplemental reading



for basic virology courses in medical schools and universities. In addition, it is highly recommended for advanced courses in positive-strand RNA virology.

Condensed Contents

Overview: Positive-Stranded RNA Viruses: Early History and the Role of Model Viruses (Kaesberg)

I. Viral Evolution (7 chapters by Goldbach; Spaan et al.; Taylor et al.; Meyers et al.; Dolja et al.; Godeny et al.; and Wright and Cotton.) **II.** Genome Replication (5 chapters by Hall et al.; Flanagan et al.; Strauss et al.; Leibowitz et al.; and Barton et al.) **III.** DI-RNAs and Infectious Clones (7 chapters by Giachetti and Semler; Hagino-Yamagishi et al.; Siegl et al.; Grakoui et al.; Wellink et al.; Morris and Knorr; and Roos et al.) **IV.** Protein Translation, Cleavage, and Modification (10 chapters by Reuer et al.; Howell et al.; Macejak et al.; Simons et al.; Garoff et al.; Parks et al.; Skern et al.; Falk et al.; Feng et al.; and Falgout and Lai.)

V. Virion Structure and Assembly (6 chapters by Hogle et al.; Acharya et al.; Chen et al.; Wengler; Schlesinger et al.; and Kirkegaard and Compton.) **VI.** Viral Receptors, Uptake, and Disassembly (6 chapters by Holmes et al.; Colonno et al.; McClelland and Greve; Merluzzi et al.; Hsu et al.; and Racaniello et al.) **VII.** Antigenic Structure and Functions (4 chapters by Siddell et al.; Heinz et al.; Kurane et al.; and Strauss et al.) **VIII.** Molecular Aspects of Pathogenesis and Virulence (5 chapters by Agol; Girard et al.; Calenoff et al.; Johnston et al.; and Kandolf et al.) **IX.** Strategies for Control of Virus Disease (4 chapters by Baulcombe et al.; Kew et al.; McKinlay et al.; and Andries et al.)

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THE RIBOSOME

STRUCTURE, FUNCTION, & EVOLUTION

Edited by **Walter E. Hill**, *University of Montana, Missoula*; **Albert Dahlberg**, *Brown University, Providence, R.I.*; **Roger A. Garrett**, *University of Copenhagen, Copenhagen, Denmark*; **Peter B. Moore**, *Yale University, New Haven, Conn.*; **David Schlessinger**, *Washington University School of Medicine, St. Louis, Mo.*; and **Jonathan R. Warner**, *Albert Einstein College of Medicine, Bronx, N.Y.*

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 procaryotic 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.

The book opens with a personal, historical retrospective and summary by Masayasu Nomura, followed by historical insights on ribosome preparation by Alexander S. Spirin. From there, chapters turn to recent developments in every arena of research into the ribosome. Much of the current knowledge about the detailed mechanisms by which the ribosome is involved in protein biosynthesis has only recently been delineated thanks to a host of new research techniques. Additional information about how antibiotics and ribosomes interact and a view of the ribosome in its evolutionary context are also included.

Arising from the August 1989 International Conference on Ribosomes, this reference will be extremely useful to advanced students as well as investigators whose work either directly or indirectly touches on this subject.

CONDENSED CONTENTS

Historical (2 chapters by Nomura and Spirin). **Structure of Ribosomes and rRNA** (12 chapters by Noller et al.; Brimacombe et al.; Frank et al.; Boublik, Mandiyan, and Tumminia; Stöffler-Meilicke and Stöffler; Yonath et al.; Ehresmann et al.; Draper; Egebjerg, Larsen, and Garrett; Oakes et al.; Serdyuk et al.; and Wool et al.). **Probing rRNA Function** (4 chapters by Raué et al.; Tapprich et al.; Cunningham et al.; and Hill et al.). **Initiation** (5 chapters by Van Knippenberg; Hartz, McPheeters, and Gold; Gualerzi et al.; Merrick; and Munroe and Jacobson). **Elongation** (8 chapters by Liljas; Rheinberger et al.; Zimmermann, Thomas, and Wöwer; Wintermeyer, Lill, and Robertson; Barta, Kuechler, and Steiner; Hardesty, Odom, and Czworkowski; Ehrenberg et al.; and Möller). **Termination** (2 chapters by Tate, Brown, and Kastner and Murgola et al.). **Ribosome Formation** (7 chapters by Nilsson et al.; Pace and Burgin; Srivastava and Schlessinger; Musters et al.; Warner et al.; Gerbi et al.; and Ware and Khanna-Gupta). **Antibiotic Mechanisms and Probes**

(3 chapters by Cundliffe; Cooperman, Weitzmann, and Fernández; and Ballesta and Lazaro). **Translational Fidelity** (6 chapters by Kurland et al.; Dix, Thomas, and Thompson; Weiss et al.; Buckingham et al.; Bogosian et al.; and Culbertson et al.). **Evolution of Ribosomes** (8 chapters by Gouy and Li; Lake; Gray and Schnare; Wittmann-Liebold et al.; Matheson et al.; Finley, Bartel, and Varshavsky; Amils et al.; and Subramanian, Smooker, and Giese).

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Molecular Aspects of Picornavirus Infection and Detection

Edited by **Bert L. Semler**, University of California, Irvine, and
Ellie Ehrenfeld, University of Utah Medical School, Salt Lake City

In the past two years, giant strides have been made in our knowledge of the molecular biology and structure of picornaviruses. The complete three-dimensional structures of rhinovirus and poliovirus have now been solved through X-ray crystallographic studies, yielding much important information about the antigenic regions of viral proteins and the relationship of viral structure to antibody accessibility, with important implications for vaccine design. These three-dimensional structures have provided new insight into the mechanism of action of several antiviral compounds.

This very timely book presents our current understanding of the biology of these viruses in the context of clinical implications. Virologists, molecular biologists, and clinical researchers will all find this book useful and interesting reading. Based on the 1988 ICN-UCI International Conference on Virology, Newport Beach, Calif.

CONTENTS

I. Molecular Biology of Viral Replication: Use of Mutagenesis Cartridges in Molecular Genetic Analyses of Poliovirus (Bradley et al.); Replication of Hepatitis A Virus (Ticehurst et al.); Comparison of Encephalomyocarditis Virus and Poliovirus Translation Initiation and Processing In Vitro (Jackson); Molecular Biology and Genetics of Poliovirus Protein Processing (Dewalt and Semler); Poliovirus RNA Polymerase Expressed in *E. coli* (Ehrenfeld and Richards); A Large Segment of Poliovirus 5'

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