DNA Replication in Eukaryotic Cells
Monograph 31
Edited by Melvin L. DePamphilis, National Institute of Child Health and Human Development, National Institutes of Health

DNA replication is a central cog in the machinery of cell and viral proliferation. After significant advances in the past few years, its regulation is now understood in unprecedented depth.

This is the first book to provide a detailed and thoroughly up-to-date review of the complexity of DNA replication in eukaryotic cells. It is organized into three parts: Concepts, a distillation of underlying principles; Enzymes, a description of each protein class involved; and Systems, a review of events over a wide range of organisms. The book is therefore invaluable for teachers who want a current survey of a topic central to the biology syllabus; investigators of replication who will appreciate a remarkably concise, central source of knowledge in their specialty; and scientists studying other biological functions on which DNA replication has an impact.

CONTENTS
CONCEPTS
Mechanisms for Replicating DNA (G.S. Brush and T.J. Kelly); Origins of DNA Replication (M.L. DePamphilis); Roles of Transcription Factors in DNA Replication (P.C. van der Vliet); Roles of Nuclear Structure in DNA Replication (R. Laskey and M. Madine); Mechanisms for Priming DNA Synthesis (M. Salas, J.T. Miller, J. Leis, and M.L. DePamphilis); Mechanisms for Completing DNA Replication (D. Bastia and B.K. Mohanty); Fidelity of DNA Replication (J.D. Roberts and T.A. Kunkel); DNA Excision Repair Pathways (E.C. Friedberg and R.D. Wood); Chromatin Structure and DNA Replication: Implications for Transcriptional Activity (A.P. Wolfe); Roles of Phosphorylation in DNA Replication (K. Weisshart and E. Fanning); Control of S Phase (K. Nasmyth); Temporal Order of DNA Replication (I. Simon and H. Cedar); Changes in DNA Replication during Animal Development (J.L. Carminati and T.L. Orr-Weaver); Comparison of DNA Replication in Cells from Prokarya and Eukarya (B. Stillman)

ENZYMES
Cellular DNA Polymerases (T.S.-F. Wang); Viral DNA Polymerases (D.M. Coen); DNA Replication Accessory Proteins (U. Hübscher, G. Maga, and V.N. Podust); DNA Helicases (J.A. Borowiecz); DNA Ligases (R. Nash and T. Lindahl); DNA Topoisomerases (A. Hangaard Andersen, C. Bendixen, and O. Westergaard); Telomerases (C.W. Greider, K. Collins, and C. Axetier)

SYSTEMS
SV40 and Polyomavirus DNA Replication (J.A. Hassell and B.T. Brinton); Papillomavirus DNA Replication (A. Stenlund); Adenovirus DNA Replication (R.T. Hay); Herpesvirus DNA Replication (M. Chalmberg); Epstein-Barr Virus DNA Replication (J.L. Yates); Poxvirus DNA Replication (P. Traktman); Parvovirus DNA Replication (S.F. Cotmore and P. Tattersall); Replication of the Hepatitis Virus Genome (C. Seeger and W.S. Mason); Geminivirus DNA Replication (D.M. Bisaro); Baculovirus DNA Replication (C.H. Ahrens, D.J. Leisy, and G.F. Rohrmann); DNA Replication in Yeast (C.S. Newkorn); DNA Replication in Tetrahymena (G.M. Kapler, D.L. Dobbs, and E.H. Blackburn); DNA Replication in Physarum (G. Pierzon and M. Bénard); Differential DNA Replication in Insects (S.A. Gerbi and F.D. Urnov); DNA Replication in Xenopus (J.J. Blow and J.P. Chong); DNA Replication in Mammals (N.H. Heiniz); DNA Replication in Plants (J. Van't Hof); Mitochondrial DNA Replication (D.A. Clayton); Kinetoplast DNA Replication (A.F. Torri, L.J. Rocc Carpenter, and P.T. Englund)

1996, 1058 pp., illus., color plates, index
Cloth $125 ISBN 0-87969-459-9

Telomerases
Monograph 29
Edited by Elizabeth H. Blackburn, University of California, San Francisco; Carol W. Greider, Cold Spring Harbor Laboratory

--Here's what the reviewers have to say:
"...the present book is both timely and much needed. The literature has become increasingly diverse and voluminous, making it difficult for the casual reader or newcomer to the field to gain a balanced perspective. Telomerases provides an excellent, easy-to-read introduction for such readers. Moreover, since the book contains a wealth of information on all aspects of telomere biology and biochemistry, it should prove tremendously useful to even the most experienced telomere researcher.

A major strength of the book lies in the breadth of its coverage and the way it links the diverse topics. Each chapter concentrates on a different aspect of telomere research and where necessary describes the experimental system used in performing the research. Thus the book covers topics as diverse as telomere addition in ciliates, gene expression and telomere position effect in yeast, construction of mammalian artificial chromosomes, and telomerase and cancer in humans. Yet the various chapters are not isolated units. The authors frequently refer to other chapters and give short accounts of topics that are discussed in detail elsewhere, providing the reader with a sense of continuity. A further useful and enjoyable feature of the book is its historical perspective, which allows the reader to see how the field developed before being plunged into the intricacies of current knowledge."

---Science

1995, 396 pp., illus., index

To order, or request additional information:
Call: 1-800-843-4388 (Continental U.S. and Canada) 516-349-1930 (All other locations)
FAX: 516-349-1946
E-MAIL: cshpress@cshl.org or World Wide Web Site http://www.cshl.org
Write: CSHL Press, 10 Skyline Drive, Plainview, NY 11803-2500 

Reader Service No. 603
Contents

Review
Propagation of traveling waves in excitable media
Brian M. Sager

Research papers
Human HPK1, a novel human hematopoietic progenitor kinase that activates the JNK/SAPK kinase cascade

Opposing pairs of serine protein kinases and phosphatases transmit signals of environmental stress to activate a bacterial transcription factor
Xiaofeng Yang, Choong Min Kang, Margaret S. Brody, and Chester W. Price

Conjugation, meiosis, and the osmotic stress response are regulated by Spc1 kinase through Atfl transcription factor in fission yeast
Kazuhiro Shiozaki and Paul Russell

The Atfl transcription factor is a target for the Sty1 stress-activated MAP kinase pathway in fission yeast
Marc G. Wilkinson, Michael Samuels, Tadayuki Takeda, W. Mark Toone, Jia-Ching Shieh, Takashi Toda, Jonathan B.A. Millar, and Nic Jones

Vein is a novel component in the Drosophila epidermal growth factor receptor pathway with similarity to the neuregulins
Bruce Schnepp, Gary Grumbling, Timothy Donaldson, and Amanda Simcox

Caenorhabditis elegans sex-determining protein FEM-2 is a protein phosphatase that promotes male development and interacts directly with FEM-3
Ian D. Chin-Sang and Andrew M. Spence

In vivo targeted mutagenesis of a regulatory element required for positioning the Hoxd-11 and Hoxd-10 expression boundaries
Matthieu Gérard, Jia-Yang Chen, Hinrich Gronemeyer, Pierre Chambon, Denis Duboule, and József Zákány

Pip, a lymphoid-restricted IRF, contains a regulatory domain that is important for autoinhibition and ternary complex formation with the Ets factor PU.1
Abraham L. Brass, Eli Kehrli, Charles F. Eisenbeis, Ursula Storb, and Harinder Singh

Three sites of contact between the Bacillus subtilis transcription factor σF and its antisigma factor SpoIIAB
Amy Lynn Decatur and Richard Losick

(continued)
Gene activation by recruitment of the RNA polymerase II holoenzyme
Susan Farrell, Natasha Simkovich, Yibing Wu, Alcide Barberis, and Mark Ptashne

Yeast TAFII90 is required for cell-cycle progression through G2/M but not for general transcription activation
Lynne M. Apone, Ching-man A. Virbasius, Joseph C. Reese, and Michael R. Green