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BOOK REVIEWS

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CELLS: A LABORATORY MANUAL (3-volume set). Edited by D. L. Spector, R. D. Goldman and L. A. Leinwand. Cold Spring Harbor Laboratory Press, 1998, ISBN: 0-87969-521-8, US$250.00.

During the last decade there has been a massive expansion of the field of cell biology. Its growth has been fueled primarily by the cloning revolution of the 1970 s and 1980 s and by the development of new cell-imaging techniques. These technical advances formed the foundation for investigators in many different fields to attempt to decipher the localization and functions of the genes, RNAs, and proteins being studied, and there was a growing need for a laboratory manual to provide a source of reliable protocols. These three volumes contain protocols elaborated by over 125 experts in the field and are a comprehensive collection of methods and techniques of proven value to cell biologists, but also extremely useful to molecular biologists, and biomedical researchers such as pathologists and hospital laboratory technologists. The contents range from the essentials of culturing vertebrate and nonvertebrate cells; through the isolation of cellular organelles; to advanced detection methods using immunological, cytochemical, and molecular approaches to analyze cells and tissues. The microscopy procedures cover the classic applications of light and electron microscopy, as well as the more recent imaging techniques such as confocal, deconvolution, and multiphoton microscopy.

The different protocols are divided into the following main sections:

Volume 1: Culture and biochemical analysis of cells.
—Cell culture and analysis.
—Metabolic labeling and protein modification.
—Subcellular fractionation.
—Protein identification and analysis.
—Protein expression and interactions.
—Antibodies as tools in cell biology.

Volume 2: Light microscopy and cell structure.
—Observation of live cells and cellular dynamics.
—Preparation of macromolecules and introduction into cells.
—Light and epifluorescence microscopy.
—Confocal microscopy, multiphoton microscopy, and deconvolution.

Volume 3: Subcellular localization of genes and their products.
—Visualization of organelles, proteins, and gene expression.
—In situ hybridization.
—Electron microscopy.
—Appendix 1–Stock solutions, buffers, and media commonly used in cell biology.
—Appendix 2–Basic information for cell biologists.
—Appendix 3–Microscopy: lenses, filters, and emission/excitation spectra.
—Appendix 4–Localization markers for subcellular components.
—Appendix 5–Cautions.
—Appendix 6–Suppliers.

This three-volume set represents an essential tool for every laboratory studying cell or tissue biology. It will be very useful to molecular biologists, cell biologists, pathologists, and cytogeneticists, as well as to graduate students.

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OSTEOPOROSIS: DIAGNOSTIC AND THERAPEUTIC PRINCIPLES. Edited by C. J. Rosen. 'Current Clinical Practice' series. Humana Press, Totowa, 1996, 297 pp. ISBN: 0-89603-374-0, US$99.50.

Basic and molecular studies of the skeletal remodeling system have produced a wealth of new information about the osteoporotic process. Clinical studies employing new ''bone specific'' agents have generated tremendous enthusiasm for newer therapeutic options, as well as providing a greater understanding of the spectrum of metabolic bone diseases. This expanded knowledge base has set the stage for even greater technological thrusts aimed at earlier diagnoses and cost-effective treatments.

This book aims to provide in-depth coverage of areas concerning the pathogenesis and treatment of osteoporosis. It contains 23 chapters in 5 main sections as follows:

Part I. Skeletal physiology and its relevance to osteoporosis.
—The cellular and biochemical aspects of bone remodeling.
—The role of calcium, phosphorus, and macronutrients in the maintenance of skeletal health.
—Vitamin D in health and prevention of metabolic bone disease.

Part II. The pathophysiology of osteoporosis.
—The pathophysiology of osteoporosis.
—The epidemiology of osteoporosis.
—Psychosocial aspects of osteoporosis.

Part III. The diagnosis of osteoporosis.
—What is an osteoporotic fracture?
—Bone densitometry techniques in modern medicine.
—Clinical interpretation and utility of bone densitometry.
—Quantitative ultrasound.
—Biochemical markers of bone turnover.

Part IV. The treatment of osteoporosis.
—An introduction to clinical decision making in osteoporosis.
—Calcium as a primary treatment and prevention modality for osteoporosis.
—Use of estrogen for prevention and treatment of osteoporosis.
—Drug therapy.
—Nonpharmacologic therapy for osteoporosis.

Part V. Case presentations.
—Prevention of osteoporosis.
—The diagnosis and treatment of postmenopausal osteoporosis.
—The approach to osteoporosis in the elderly patient.
—Preventing and treating glucocorticoid osteoporosis.
—Therapy for osteoporosis in men.
—Bone mass in renal disease.
—Prevention of osteoporosis: making sense of the published evidence.

This volume will be of particular interest to primary care providers, endocrinologists, gynecologists, rheumatologists, and orthopedic surgeons, as well as to students.

PII: S0960-0760(98)00106-X

THE GABA RECEPTORS—2nd edition. Edited by S. J. Enna and N. G. Bowery. 'The Receptors' series edited by D. B. Bylund. Humana Press, Totowa, 1997, 332 pp. ISBN: 0-89603-458-5, US$125.00.

This book is a review of the latest advances in the fundamental molecular, biochemical, behavioral, and pharmacological properties of GABA receptors. It includes approaches for the identification and development of new therapeutic agents for such neurological and psychiatric disorders as epilepsy, memory loss, affective illnesses, and psychosis, as well as examining the therapeutic potential that remains in the cloning and expression of the GABA transporter, and the development of additional agents capable of regulating GABA receptor function.