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BOOK REVIEWS

PII: S0960-0760(98)00013-2

Subcellular biochemistry. Vol. 28: Cholesterol: its functions and metabolism in biology and medicine. J.R. Harris, R. Bittman. Published 1997 by Plenum Press, New York. 576 pages. ISSN: 0306-0225. ISBN: 0-306-45478-5US $139.50.

The topics in this volume cover cholesterol from A to Z. The role of cholesterol as a normal metabolic constituent of biological membranes and the pathological consequences of its metabolic mismanagement are described. Cholesterol is required for normal cell growth and proper membrane structure and function, but its unregulated accumulation is cytotoxic, and failure to maintain homeostasis of the sterol results in a number of pathological states. Among the diseases covered in this book are: atherosclerosis, gallstone disease, Niemann-Pick C disease, Schnyder's corneal crystalline dystrophy, sitosterolemia, the Smith-Lemli-Opitz syndrome, and tumor proliferation. Each chapter contains many citations to recent literature, reflecting the activity in the rapidly advancing field of the biological and health-related functions of cholesterol, and presenting a challenge for us to increase our understanding of the diverse functions of cholesterol in biology and medicine.

The following chapters are included:
—Signaling molecules derived from the cholesterol biosynthetic pathway.
—Coordinate regulation of cholesterol 7a-hydroxylase and HMG-CoA reductase in the liver.
—Polyprenyl diphosphate synthases.
—Antifungal sterol biosynthesis inhibitors.
—The Smith-Lemli-Opitz syndrome: a potentially fatal birth defect caused by a block in the last enzymatic step in cholesterol biosynthesis.
—Has Nature designed the cholesterol side chain for optimal interaction with phospholipids?
—Cholesterol and myelin.
—Regulation of mitochondrial cholesterol metabolism.
—Lipoproteins and cellular cholesterol homeostasis.
—Cholesterol-sphingomyelin interactions in cells; effects on lipid metabolism.
—Mechanisms and (patho)physiological significance of biliary cholesterol secretion.
—Cholesterol deposition in atherosclerotic lesions.
—Cholesterol metabolism and tumor cell proliferation.
—Biological implications of the Niemann-Pick C mutation.
—Sitosterolemia.
—Cholesterol cytochemistry in cell biology and disease.
—Approaches for the design of novel anti-atherogenic compounds.

This book would be useful for those working in the fields of biochemistry, chemistry, and pharmacology, as well as for advanced students.

PII: S0960-0760(98)00014-4

Coumarins. Biology, applications and mode of action. R. O'Kennedy and R.D. Thornes. Published 1997 by John Wiley & Sons Ltd., Chichester (U.K.), 1997, 358 pages. ISBN: 0-471-96997-4£60.00.

Coumarin and most of its derivatives have been known for more than a century, but their vital role in plant and animal biology has not been fully exploited. Coumarins are a group of compounds which prevent disease, modulate growth and maturation and defence systems and have anti-oxidant properties. They have important roles as food constituents: as anti-oxidants, stabilisers, and immunomodulatory substances; as fluorescent markers for use in analysis, in lasers and in clinical use. This book predominantly focuses on the biological and