

Book Reviews

Signal Transduction and Human Disease. Edited by Toren Finkel (NHLBI, NIH) and J. Silvio Gutkind (NIDCR, NIH). John Wiley and Sons, Hoboken. 2003. xviii + 470 pp. 18 × 25 cm. \$100.00. ISBN 0-471-02011-7.

Fundamental definitions of life have often included the property of irritability, that is, the response to environmental stimuli by an organism. More focused extensions of this concept resulted in the gradual evolution of signal transduction concepts to a central position in biological systems. Nobelists Martin Rodbell and Julius Axelrod made important early progress at the NIH in the nascent signal transduction field (<http://profiles.nlm.nih.gov/GG/> and <http://profiles.nlm.nih.gov/HH/>). This book reflects the ubiquity of signal transduction research in present day biomedical research, particularly at the NIH. This volume is a broad collection of papers that cross biomedical disciplines to place in context the role for signaling mechanisms in disease processes.

The scope of the text includes endocrinology, allergy and immunology, oncology, neurology, infectious diseases, and rheumatology. Current research in each section is profiled, along with sufficient historical context and literature citations to give the reader a useful perspective of the state

of the science. The section on “Molecular Mechanisms of Cancer”, by Sodhi, Montaner, and Gutkind, indicates the rapid progression in understanding of the underlying mechanisms of cancer over the last several years, which parallels the comparable understanding of the central role of signaling in other disciplines. A curious chapter that considers the molecular mechanisms of neurodegenerative disorders is likewise instructive; however, the connection with the usual signal transduction mechanisms beyond oxidative stress is less apparent. A welcome final section is entitled “Inhibiting Signaling Pathways through Rational Drug Design”. This section provides useful commentary concerning ways to modulate these signal pathways therapeutically and encapsulates current methods in drug discovery.

The book is attractively laid out with clear, well-labeled figures and charts, which make reading easy on the eyes.

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