

Book Review

Cell Signaling and Growth Factors in Development: From Molecules to Organogenesis. Edited by Klaus Unsicker and Kerstin Krieglstein, Wiley-VCH, February 2006, 1121 pp, 2 volumes, Hardcover, ISBN: 978-3-527-31034-0

Developmental biology is that branch of life science, which studies the genetic control of cell growth, differentiation and morphogenesis. Organism's development is an extraordinary process and represents a masterpiece of temporal and spatial control of gene expression. An in depth understanding of developmental biology can foster greater progress in the treatment of congenital disorders and several other diseases. Cell signaling is central to modern medicine. Intercellular communication is carried out by small molecules that interact with specialized targets at the cellular membrane. Most of these molecules (growth factors) induce by interaction with their targets (receptors) and a series of intracellular processes that finally result in cell growth and survival. Cell-to-cell communication by extra-cellular signaling usually go through six steps including the synthesis of the signaling molecule by the signaling cell; release of the signaling molecule by the signaling cell; transport of the signal to the target cell; detection of the signal by a specific receptor protein; a change in cellular metabolism, function, or development triggered by the receptor-signal complex; and removal of the signal that usually terminates the cellular response.

Cell Signaling and Growth Factors in Development: From Molecules to Organogenesis is structured in two volumes with 26 chapters and covers both embryogenesis and organ development in light of inter- and intracellular signaling together with growth and transcription factors. The first volume covers the cell

signaling and growth factors in development, in which the functions of developmental signaling pathways and growth factors with a focus on cell division, cell migration, and cell differentiation has been addressed. The second volume covers the cell signaling and growth factors in organogenesis that addresses the development of specific structure and organs. A uniform article structure throughout the book facilitates easy comparison of data. Applications in molecular medicine are highlighted with chapters on developmental disorders and related novel therapeutic strategies. The chapter illustrations and figures are adequate as the book contains 121 figures with 34 color plates. The book is authored by 66 renowned scientists around the globe.

In summary, *Cell Signaling and Growth Factors in Development: From Molecules to Organogenesis* is presented in clear language. The book is concise, illustrations are informative, and references are adequate and up-to-date that provides a balanced starting point for readers wishing to pursue the work in this innovative field of study. The book represents, without any doubt, an outstanding source of topical information in the field of cell signaling and development. This book will have widespread appeal and is written at a level appropriate for the scientists and students within developmental biology, cellular and molecular biology, and molecular medicine, and those wishing to gain a broad exposure in this field.

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