



***Molecular Biology of the Cell, 6<sup>th</sup> ed.***, by B. Alberts, A. Johnson, J. Lewis, M. Raff, K. Roberts, P. Walter, 2015; Garland Science (New York)  
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It was the 3<sup>rd</sup> edition of *Molecular Biology of the Cell* that I was reading with admiration as a 3<sup>rd</sup> year undergraduate student of Molecular Biology and Genetics. It was almost one-and-only comprehensive source book to go into the deeps of the cellular mechanisms and related techniques. It is hard to believe that almost 20 years have passed and not surprisingly, *Molecular Biology of the Cell* still holds its same respectful place in the field. It's an honour and my great pleasure now, to read and review the 6<sup>th</sup> edition of *Molecular Biology of the Cell* as a faculty member. When I have received the latest edition of the book, I felt the same excitement as I had my first *Molecular Biology of the Cell*.

*Molecular Biology of Cell* covers cellular processes extensively, from the basic molecules to the detailed molecular mechanisms, therefore I consider the book as a kind gift by the current authors Bruce Alberts, Alexander Johnson, Julian Lewis (deceased), David Morgan, Martin Raff, Keith Roberts and Peter Walter to the field of Molecular Cell Biology. The vivid cover design of the 6<sup>th</sup> edition, emphasizes the cell's regulatory feedback networks and depicts the general concept of the whole book. *Molecular Biology of the Cell, 6th ed.*, dedicated to the memory of Julian Lewis, who died in early 2014, describes up-to-date understanding of the complexity of how living cells function. Undergraduate and graduate students studying in the areas of cell biology, molecular biology and medical biology will benefit extensively from this textbook. It also serves as an excellent source as a teaching material. *Molecular Biology of the Cell, 6th edition*, is organized into 5 parts and 24 chapters, which can be read both individually and in sequence, since the chapters follow a smooth logical order. Part I introduces cells and genomes, basic principals of biochemistry and bioenergetics, and thereby prepares the readers to understand the functional cellular networks. Part II focuses on the basic genetic mechanisms like DNA replication, repair, recombination and gene expression. Part III presents modern experimental methods for visualizing and analyzing the cells. In this part, chapter 8 is newly introduced into the

book, and provides useful and comprehensive information on the mathematical analysis of cell functions. This chapter simply introduces the concept that the regulatory networks depend on molecular interactions, which can be quantitatively modeled via mathematical theories. Part IV extensively investigates the internal organization of the cell. Part V regards the cells as social entities and describes the molecular behavior of the cells in the contexts of cancer, development, immune systems and tissue regeneration. Apart from the newly introduced chapter 8, many of the chapters were re-written for comprehensive understanding and up-to-date molecular techniques (e.g. next generation sequencing, microarray analysis, etc) were included to catch the recent technical developments

One of the useful additions to the 6<sup>th</sup> edition is the inclusion of "What We Don't Know" parts to the ends of the chapters. These short highlights draws the reader's attention to the missing puzzle pieces of the related topic. Following end-of-chapter problems directs the young researchers to analytical thinking.

1492 illustrations in the *Molecular Biology of the Cell, 6th ed.* were re-organized to better suit into the text. Protein data Bank (PDB) codes of the proteins are also provided in this new edition. Many protein structures were re-drawn and consistently colored throughout the text. Another novelty of this latest edition is that, nomenclatures for genes and proteins were simplified for easy tracking. Different conventions used in individual species have been confusing and not easy to remember. This edition follows a uniform rule of nomenclature for the sake of readers' practical understanding and explains this necessity in detail in the beginning of the book.

Overall, *Molecular Biology of the Cell, 6<sup>th</sup> ed.* presents in detail the cellular mechanisms and molecular counterparts with useful additions to the previous edition, and I strongly recommend this latest edition for candidates who want to specialize in any field comprising a tough cellular biology knowledge.