

## Book Review on “*Essentials of Free Radical Biology and Medicine*”

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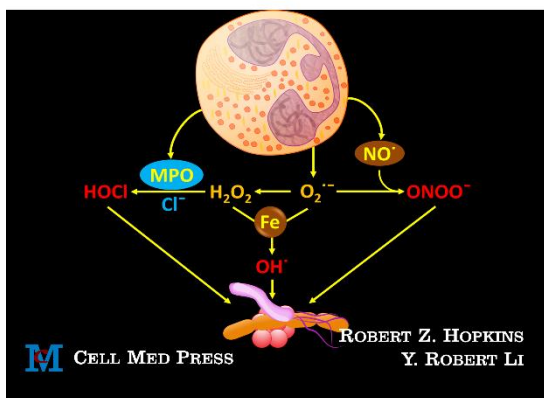
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**ABSTRACT** | This review introduces a new book titled, “*Essentials of Free Radical Biology and Medicine*” authored by Robert Z. Hopkins and Y. Robert Li. This new book is worth a thorough review to benefit potential readers, owing to its unique features including: conciseness, consistent writing format, full-color illustrations, supplementation with self-assessment questions and explanations, and finally, perhaps most importantly, coverage of only cutting-edge research discoveries published in highly influential journals with an impact factor typically above 10.

**KEYWORDS** | Biology; Book review; Essentials; Free radicals; Medicine

*Essentials of Free Radical Biology and Medicine, Authored by Robert Z. Hopkins and Y. Robert Li. First Edition. Cell Med Press, Raleigh, NC, USA. 2017.*

### ESSENTIALS of Free Radical Biology and Medicine



FREE RADICAL BIOLOGY AND MEDICINE is a rapidly evolving field impacting biosciences, especially biomedicine, in numerous aspects, ranging from a deep understanding of disease pathophysiology to the development of evidence-based modalities for preventive and therapeutic intervention of human diseases. Indeed, a quick search of the PubMed database on July 20, 2018, using “free radical” as a key phrase, pulled out more than 50,000 entries. The term “free radical” is also commonly encountered in today’s public media and frequently used by the general public in discussing the role of diet and antioxidants in health promotion.

For a relatively new and thus rapidly evolving field, like FREE RADICAL BIOLOGY AND MEDICINE, it is not surprising to see new developments and discoveries each and every day, and as a consequence, the amount of new information can be overwhelmingly huge. Hence, it is imperative to have books, including both textbooks and reference books, to carefully compile and consolidate the new discoveries resulting from the true, cutting-edge research so as to provide the professionals in the field as well as the general public an effective means to gain such new knowledge. This is particularly important in a digital era signified by an exponential growth in the numbers of new journals, among which many are, unfortunately, of poor

scientific quality disseminating findings from poorly designed and conducted research.

Both professionals and the general public have been benefiting greatly from the availability of excellent books, especially textbooks, on free radicals and related species and their involvement in biology and medicine. In this context, “*Essentials of Free Radical Biology and Medicine*” is a new excellent addition to the family of high-quality textbooks on the biological and medical aspects of free radicals and related species. Written in a very accessible style and consistent format by Robert Z. Hopkins and Y. Robert Li, an internationally recognized expert in the field, “*Essentials of Free Radical Biology and Medicine*” takes a unique approach to integrating the fundamental principles with high-quality, cutting-edge research discoveries, and the basic biosciences with clinical medicine so as to provide the reader a comprehensive picture of the field in a concise manner. The book has several unique features, including: (1) blending basic and clinical sciences needed to effectively demonstrate the importance of the field; (2) including well-designed full-color illustrations to facilitate the understanding of the essential concepts; (3) citing references almost exclusively from highly influential journals (with an impact factor of typically above 10) to ensure the top quality of the information; and (4) using carefully designed self-assessment questions and glossary to enhance the assimilation of the cutting-edge knowledge.

This large-trim (8.5 × 11 inches), 254-page, full-color book comes out in both paperback and hardcover. It has a total of 15 chapters covering essentially all the major aspects of free radicals and related species in biology and medicine. The 15 chapters are organized into three units, i.e., Unit I (Chapters 1–4): The Birth of Concepts; Unit II (Chapters 5–7): Chemical and Biological Principles; and Unit III (Chapters 8–15): Common Free Radicals and Related Reactive Species in Biology and Medicine. Each chapter includes an abstract, a list of keywords, a list of

abbreviations used, a chapter outline, main text, a summary chapter key points, a list of 5–10 self-assessment questions with answers and detailed explanations, and finally, a list of references cited almost exclusively from highly influential journals. In addition to its well-organized, easy-flowing 15 chapters, the book also provides three appendices: (1) a list of chemical formulas and abbreviations commonly used in FREE RADICAL BIOLOGY AND MEDICINE; (2) a brief description of common cellular antioxidants and related entities; and (3) a list of glossaries frequently encountered in FREE RADICAL BIOLOGY AND MEDICINE. The book is also supplemented with a carefully prepared, elaborate index.

It is de rigueur for book reviewers to raise some issues. In this regard, this reviewer feels that the prices for the book (\$95 for paperback and \$125 for hardcover) on Amazon might keep the numbers of buyers of personal copies unfortunately small. Nevertheless, the unique features and excellent quality of the book as mentioned above may be worth the cost, especially for professionals in the field and academic libraries. Hence, as an active scientist in the field of FREE RADICAL BIOLOGY AND MEDICINE, I highly recommend this excellent work to be used as either a textbook or a reference book for students, faculty, research scientists, and other professionals in the fields of biology, pharmaceutical sciences, basic biomedical sciences, and clinical medicine. This fine work may also serve as a good reference book for the general public who are interested in learning unbiased new knowledge on free radicals and antioxidants and their roles in human health and disease.

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