

Book Review

“Regenerative Medicine - from Protocol to Patient”

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The essentials of the upcoming and rapidly changing specialty of regenerative medicine, which has kindled high hopes among the clinical and scientific community as well as the society, are presented concisely in this book. Considering the multivariate sub-specialties within regenerative medicine, starting with cell biology and allied basic sciences through translational research to clinical application in various specialties of medicine, enormous efforts are mandatory to bring a comprehensive text book of this nature. The authors deserve kudos for this.

This book comprehensively describes and reviews the current progress in stem cell research and regenerative medicine, in five main parts: (I) Biology of Tissue Regeneration; (II) Stem Cell Science and Technology; (III) Tissue Engineering, Biomaterials and Nanotechnology; (IV) Regenerative Therapies; and (V) Regulation and Ethics. It fully covers all the major components in the field. Each chapter, written by the experts in the respective areas of work, throws light on the intricacies in detail, making this book immensely useful for students, clinicians and scientists interested in regenerative medicine.

However, there is still scope for further refinement of some chapters. In Part II Stem Cell Science and Technology, three important stem cell types- muscle stem cells (satellite cells), stem cells from the skin and hair follicles, and stem cells from the gut epithelium-may be added as three individual chapters which probably the authors could consider for the next edition, as these cell types represent unique stem cells that have distinct properties and replenish specifically muscle, skin, hair, and gut epithelium respectively. In the chapter on cardiac stem cells, a table summarizing the properties of the four different types of cardiac stem cells described in the text may give readers more clear comparison of the pros and cons on these cells and know their properties better. The future direction (section 12.5) discussed the quality of cells and efficiency of the *in vivo* viability of transplantation. It would be great to add additional discussions on some other directions, such as improving the integration of the cardiac stem cells with host and combining with tissue engineering to improve transplantation.

A new chapter to include the clinical trials of various stem cell therapies: both successful ones and otherwise, as well,

the inclusion of the perspectives for some promising cell therapies, which have not been applied in clinic, probably would have done more justice from the perspectives of clinicians and patients.

On the whole, this book summarizes the developments and the current trend in regenerative medicine and emphasizes on the stem cell biology and their application.

Generally, this book is well-organized and written in lucid style offering a comprehensive review of the advancements in the topics covered. This book is bound to contribute to a thorough understanding of regenerative medicine paving way for great ideas for future research and significant discoveries in the field of Regenerative Medicine.

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