

Preface

Tissue engineering aims to regenerate tissues and organs, which can provide biologically similar functions. Tissue engineering emerged to provide an alternative solution in order to overcome the problems of current transplantation therapy. Scaffolds play a crucial role in tissue engineering. Scaffolds function as temporary extracellular matrices for cell accommodation, proliferation and differentiation. The challenge of developing scaffolds still remains although the general requirements for scaffold are well described.

This book, *Composite Synthetic Scaffolds for Tissue Engineering and Regenerative Medicine*, makes an effort to deliver the main features and current progress of biomaterials and scaffold fabrication techniques in the area of tissue engineering and regenerative medicine. This Springer Brief consists of four chapters. Chapter 1 is anticipated to address the commonly used materials used to fabricate tissue engineering scaffolds. Chapter 2 describes the scaffold fabrication techniques. Chapter 3 focuses on fabrication and characterization of polymer and composite scaffolds by using electrospinning technique. Chapter 4 provides the production of composite scaffolds using freeze-drying technique. All these four chapters not only provide the complete summary of the current trends in fabrication of composite scaffolds but also present the new trends and directions for scaffold development for the ever expanding tissue engineering and regenerative medicine.

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