



*Special Issue Reprint*

## **Advance of Polymers Applied to Biomedical Applications: Cell Scaffolds**

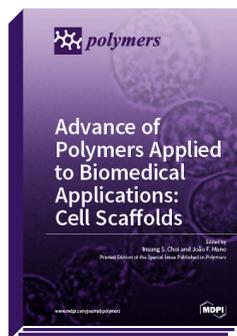
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Since Langer's seminal work, polymers have been on every corner of tissue engineering. The roles of bioresorbable polymers, as a scaffold, are not merely structural, providing three-dimensional (3D) homing sites to cells, but also functional at their interface with the cells. The polymeric scaffolds actively act as both biochemical and physical cues for cell behaviors, such as adhesion, growth, proliferation, and differentiation. Polymers and cells could interact further with each other mutually, sensing and responding to the signals from the partner. Technological advances in this direction, including chemical modification of polymer scaffolds, highly cytocompatible hybrid materials/composites, dynamic scaffolds, control of juxtacrine interactions, and 3D bioprinting and microfluidic devices, ensure the advances in polymers as cell scaffolds. The detection and characterization methods for cell-material interactions and cell behaviors have been greatly improved, and new characterization techniques have emerged. Recent years have witnessed a quantum leap of progress in tissue engineering and regenerative medicine, and this edited book illustrates some of the advances in polymers as cell scaffolds.



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